FILE COPY

Lancaster Laboratories

2425 New Holland Pike, PO Box 12425, Lancaster, PA 17605-2425 • 717-656-2300 Fax: 717-656-2681 • www.lancasterlabs.com

Type I Data Package

Prepared for:

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

CHECKED FOR COMPLETENESS OF PARAMETERS ORDERED BY:

Project: Olin Wilmington, MA Superfund Site/6107090016
Soil Samples
Collected on 06/08/11

SDG# OLN72

GROUP	SAMPLE NUMBERS
1250628	6310728-6310731

PA Cert. # 36-00037
NY Cert. # 10670
NJ Cert. # PA011
NC Cert. # 521
TX Cert. # T104704194-08A-TX

Through our technical processes and second person review of data, we have established that our data/deliverables are in compliance with the methods and project requirements unless otherwise noted or previously resolved with the client.

Authorized by: Dana M Kauffman **Date:** 07/06/2011

Dana M. Kauffman
Manager

Any questions or concerns you might have regarding this data package should be directed to your client representative, Nicole Maljovec at Ext. 1537.

Total Number of Pages 60

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Sample Reference List for SDG Number OLN72 with a Data Package Type of I

12670 - Olin Corporation

Project: Olin Wilmington, MA Superfund Site/6107090016

Lab Sample Number	Lab Sample Code	Client Sample Description
6310728	448-D	OC-SS-448-0.0/1.0-DUP Grab Soil
6310729	448-1	OC-SS-448-0.0/1.0-XXX Grab Soil
6310730	448-1	OC-SS-448-0.0/1.0-XMS Grab Soil
6310731	448-1	OC-SS-448-0.0/1.0-MSD Grab Soil

A12670/1250628/6310728-31

Soil Program

Client:	Olin Corporation	Client Project #:	6107090016
Address:	3855 North Ocoee St. Suite 200	Work Site ID:	Wilmington, MA
	Cleveland, TN 37312	Reports Sent To:	Steve Morrow
Phone:	423-336-4511	Fax:	423-336-1466
Email:	SGMorrow@olin.com	Email Rpt:	

Requested Turnaround Time (Specify)
Standard____ Rush____ (Lab Approval Required)

Regulatory Programs: MADEP MCP____ Superfund ____
Report Requirements Level IV Package ____ Level II Package ____
EDD Requirements: MACTEC EQUIS EZ EDD

INVOICE INFO — Shaded Areas for office use only

Company Name: Olin Corp
Company Contact: ERG Accounts Payable
Address: Same as Client
Phone: Email

Job #_____ Quote #_____
Lab SDG #_____ PO #_____

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	Cr+6 (3060A / 7199)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kempore (80008 - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	<--Preservative Type (4) / <--Bottle Type (5)	Comments (Special Instructions)
							G	P	G	V	V	V	AG	Zn AV		
OC-SS-448-0.0/1.0-DUP	6/8/2011 9:35:00 AM	T	FD	SO	G	1							X			Shipped on ICE

Lancaster Lab
Page 1 of 2

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, EB = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water, SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial.

Cooler ? Y / N | MADEP Requirement
Samples Iced? Y / N
Temp @ receipt: 1.8 Deg C
Preservation / pH checked? Y / N
By: _____ Date: _____

Relinquished: _____ Date: 6/8/11 Time: 1500 Received: _____ Date: __/__/__ Time: _____

Relinquished: _____ Date: __/__/__ Time: _____ Received: _____ Date: 6/9/11 Time: 905

One cooler Shipped Fed Ex P1 tracking #: 8673 8250 3816

A12670/1250628/6310728-31

Soil Program

MACTEC

Sample ID	Date/Time Collected	Fraction (1)	QC Code (2)	Sample Matrix (3)	Composite (C) or Grab (G)	Total # of Containers	G	P	G	V	V	V	AG	AV	<--Preservative Type (4) <--Bottle Type (5) Comments (Special Instructions)
							Cr+6 (3060A / 7196)	Cr+6 (7199)	DMF (Mod 8033 - GC/NPD)	DMF (Mod 8033 - GC/NPD)	Opex / Kemp ore (8300E - HPLC)	Perchlorate (6850)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	Hydrazine, MMH, UDMH (Mod 8315 LC/MS/MS)	
OC-SS-448-0.0/1.0-MSD	6/8/2011 9:35:00 AM	T	MS	SO	G	1							X		Shipped on ICE
OC-SS-448-0.0/1.0-XMS	6/8/2011 9:35:00 AM	T	MS	SO	G	1							X		↓ Lancaster Lab
OC-SS-448-0.0/1.0-XXX	6/8/2011 9:35:00 AM	T	FS	SOIL	G	1							X		Page 2 of 2

Special Instructions For Lab

Notes:

1.) Fraction: T = Total, D = Dissolved, S = SPLP, C = TCLP, N = Not Applicable

2.) QC Codes: FS = Field Sample, TB = Trip Blank, FD = Field Duplicate, ED = Equipment Blank, MS = Matrix Spike, MSD = Matrix Spike Duplicate, PE = Performance Evaluation Sample, FB = Field Blank

3.) Sample Matrix: GW = Groundwater, SW = Surface Water, DW = Drinking Water, SO = Soil, SD = Sediment, BW = Blank Water, NAL = Non-Aqueous Liquid, PR = Product, O = Oil

4.) Preservation Type: HA = Hydrochloric Acid, NI = Nitric Acid, SA = Sulfuric Acid, SH = Sodium Hydroxide, Zn = Zinc Acetate, ME = Methanol, DI = DI Water

5.) Bottle Type: G = Glass, P = Plastic, V = 40mL VOA Glass Vial, AG = Amber Glass, AV = 40mL VOA Amber Glass Vial

Relinquished: [signature] **Date:** 6/8/11 **Time:** 1500 **Received:** _____ **Date:** _/_/_ **Time:** _____

Relinquished: _____ **Date:** _/_/_ **Time:** _____ **Received:** [signature] **Date:** 6/9/11 **Time:** 905

Cooler ? Y / N	MADEP Requirement
	Samples Iced ? Y / N
Temp @ receipt: 1.8 Deg C	
Preservation / pH checked? Y / N	
By: _____ Date: _____	

Lancaster Laboratories

Environmental Sample Administration
Receipt Documentation Log

Client/Project: Olin Cup

Date of Receipt: 6/9/11

Time of Receipt: 905

Source Code: 50-1

Shipping Container Sealed: (YES) NO

Custody Seal Present * : (YES) NO

* Custody seal was intact unless otherwise noted in the discrepancy section

Package: (Chilled) Not Chilled

Temperature of Shipping Containers							
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments
1	0403	1.8°C	TB	WI	Y	B	
2							
3							
4							
5							
6							

Number of Trip Blanks received NOT listed on chain of custody: 0

Paperwork Discrepancy/Unpacking Problems:

Unpacker Signature/Emp#: 2316 **Date/Time:** 6/9/11 1045

OLH22 8884

Issued by Dept. 6042 Management

2174.06

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10346 Hydrazines in Soil

The soil is extracted with a buffer solution of known pH. An aliquot of the supernatant is derivatized and directly analyzed by HPLC/MS/MS.

Reference: Test Methods for Evaluating Solid Wastes, SW-846 Method 8315A modified, December 1996.

00111 Moisture
00118 Moisture
00121 Moisture Duplicate

A well-mixed sample is placed in a tared container and dried to a constant weight in an oven at 103-105C. The increase in weight is the total solids.

Reference: Standard Methods for the Examination of Water and Wastewater, 20th Edition, 1998, Method 2540 G

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Analysis Report

ANALYTICAL RESULTS

Prepared by:

Lancaster Laboratories
2425 New Holland Pike
Lancaster, PA 17605-2425

Prepared for:

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

June 17, 2011

Project: Olin Wilmington, MA Superfund Site/6107090016

Submittal Date: 06/09/2011
Group Number: 1250628
SDG: OLN72
PO Number: REWI0012
Release Number: ERRE9813
State of Sample Origin: MA

Client Sample Description	Lancaster Labs (LLI) #
OC-SS-448-0.0/1.0-DUP Grab Soil	6310728
OC-SS-448-0.0/1.0-XXX Grab Soil	6310729
OC-SS-448-0.0/1.0-XMS Grab Soil	6310730
OC-SS-448-0.0/1.0-MSD Grab Soil	6310731

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC COPY TO	MACTEC	Attn: Kelly Chatterton
ELECTRONIC COPY TO	MACTEC	Attn: Chris Ricardi
ELECTRONIC COPY TO	Olin Chemicals	Attn: James Cashwell
ELECTRONIC COPY TO	Data Package Group	

Lancaster Laboratories

Analysis Report

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Questions? Contact your Client Services Representative
Nicole L Maljovec at (717) 656-2300 Ext. 1537

Respectfully Submitted,

Dorothy M. Love

Dorothy M. Love
Group Leader

Lancaster Laboratories

Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

RL	Reporting Limit	**BMQL**	Below Minimum Quantitation Level
N.D.	none detected	**MPN**	Most Probable Number
TNTC	Too Numerous To Count	**CP Units**	cobalt-chloroplatinate units
IU	International Units	**NTU**	nephelometric turbidity units
umhos/cm	micromhos/cm	**ng**	nanogram(s)
C	degrees Celsius	**F**	degrees Fahrenheit
meq	milliequivalents	**lb.**	pound(s)
g	gram(s)	**kg**	kilogram(s)
ug	microgram(s)	**mg**	milligram(s)
ml	milliliter(s)	**l**	liter(s)
m3	cubic meter(s)	**ul**	microliter(s)

< less than - The number following the sign is the limit of quantitation, the smallest amount of analyte which can be reliably determined using this specific test.

> greater than

J estimated value – The result is ≥ the Method Detection Limit (MDL) and < the Limit of Quantitation (LOQ).

ppm parts per million - One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

ppb parts per billion

Dry weight basis Results printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture. All other results are reported on an as-received basis.

U.S. EPA CLP Data Qualifiers:

Organic Qualifiers

A	TIC is a possible aldol-condensation product
B	Analyte was also detected in the blank
C	Pesticide result confirmed by GC/MS
D	Compound quantitated on a diluted sample
E	Concentration exceeds the calibration range of the instrument
N	Presumptive evidence of a compound (TICs only)
P	Concentration difference between primary and confirmation columns >25%
U	Compound was not detected
X,Y,Z	Defined in case narrative

Inorganic Qualifiers

B	Value is <CRDL, but ≥IDL
E	Estimated due to interference
M	Duplicate injection precision not met
N	Spike sample not within control limits
S	Method of standard additions (MSA) used for calculation
U	Compound was not detected
W	Post digestion spike out of control limits
*****	Duplicate analysis not within control limits
+	Correlation coefficient for MSA <0.995

Analytical test results meet all requirements of NELAC unless otherwise noted under the individual analysis.

Measurement uncertainty values, as applicable, are available upon request.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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ELN72 2088

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Analysis Report

Sample Description: OC-SS-448-0.0/1.0-DUP Grab Soil
Wilmington MA Superfund Site

LLI Sample # SW 6310728
LLI Group # 1250628
Account # 12670

Project Name: Olin Wilmington, MA Superfund Site/6107090016

Collected: 06/08/2011 09:35

Submitted: 06/09/2011 09:05
Reported: 06/17/2011 14:11

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

448-D SDG#: OLN72-01FD

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		ng/g	ng/g	ng/g	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.	5.3	2.1	1
10346	Hydrazine	302-01-2	2.5	2.1	0.53	1
10346	Methylhydrazine	60-34-4	N.D.	5.3	2.1	1
Wet Chemistry	**SM20 2540 G**		%	%	%	
00111	Moisture	n.a.	6.2	0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	11165002	06/16/2011 00:03	Meng Yu	1
00111	Moisture	SM20 2540 G	2	11165820002B	06/14/2011 19:21	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OC-SS-448-0.0/1.0-XXX Grab Soil
Wilmington MA Superfund Site

LLI Sample # SW 6310729
LLI Group # 1250628
Account # 12670

Project Name: Olin Wilmington, MA Superfund Site/6107090016

Collected: 06/08/2011 09:35

Submitted: 06/09/2011 09:05
Reported: 06/17/2011 14:11

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

448-1 SDG#: OLN72-02BKG

CAT No.	Analysis Name	CAS Number	Dry Result		Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		ng/g		ng/g	ng/g	
10346	1,1-Dimethylhydrazine	57-14-7	N.D.		5.3	2.1	1
10346	Hydrazine	302-01-2	1.7	J	2.1	0.53	1
10346	Methylhydrazine	60-34-4	N.D.		5.3	2.1	1
Wet Chemistry	**SM20 2540 G**		%		%	%	
00111	Moisture	n.a.	6.5		0.50	0.50	1

"Moisture" represents the loss in weight of the sample after oven drying at 103 - 105 degrees Celsius. The moisture result reported above is on an as-received basis.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	11165002	06/15/2011 23:43	Meng Yu	1
00111	Moisture	SM20 2540 G	2	11165820002B	06/14/2011 19:21	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OC-SS-448-0.0/1.0-XMS Grab Soil
Wilmington MA Superfund Site

LLI Sample # SW 6310730
LLI Group # 1250628
Account # 12670

Project Name: Olin Wilmington, MA Superfund Site/6107090016

Collected: 06/08/2011 09:35

Submitted: 06/09/2011 09:05
Reported: 06/17/2011 14:11

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

448-1 SDG#: OLN72-02MS

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		ng/g	ng/g	ng/g	
10346	1,1-Dimethylhydrazine	57-14-7	59	5.3	2.1	1
10346	Hydrazine	302-01-2	15	2.1	0.53	1
10346	Methylhydrazine	60-34-4	54	5.3	2.1	1
Wet Chemistry	**SM20 2540 G**		%	%	%	
00118	Moisture	n.a.	6.5	0.50	0.50	1

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	11165002	06/16/2011 01:45	Meng Yu	1
00118	Moisture	SM20 2540 G	2	11165820002B	06/14/2011 19:21	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

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Analysis Report

Sample Description: OC-SS-448-0.0/1.0-MSD Grab Soil
Wilmington MA Superfund Site

LLI Sample # SW 6310731
LLI Group # 1250628
Account # 12670

Project Name: Olin Wilmington, MA Superfund Site/6107090016

Collected: 06/08/2011 09:35

Submitted: 06/09/2011 09:05
Reported: 06/17/2011 14:11

Olin Corporation
Suite 200
3855 North Ocoee Street
Cleveland TN 37312

448-1 SDG#: OLN72-02MSD*

CAT No.	Analysis Name	CAS Number	Dry Result	Dry Limit of Quantitation*	Dry Method Detection Limit	Dilution Factor
Misc. Organics	**SW-846 8315A modified**		ng/g	ng/g	ng/g	
10346	1,1-Dimethylhydrazine	57-14-7	60	5.3	2.1	1
10346	Hydrazine	302-01-2	13	2.1	0.53	1
10346	Methylhydrazine	60-34-4	39	5.3	2.1	1
Wet Chemistry	**SM20 2540 G**		%	%	%	
00118	Moisture	n.a.	6.5	0.50	0.50	1
00121	Moisture Duplicate	n.a.	6.1	0.50	0.50	1

The duplicate moisture value is provided to assess the precision of the moisture test. For comparability purposes, the initial moisture determination is the value used to perform dry weight calculations.

General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

Laboratory Sample Analysis Record

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Time	Analyst	Dilution Factor
10346	Hydrazines in Soil	SW-846 8315A modified	1	11165002	06/16/2011 02:05	Meng Yu	1
00118	Moisture	SM20 2540 G	2	11165820002B	06/14/2011 19:21	Scott W Freisher	1
00121	Moisture Duplicate	SM20 2540 G	2	11165820002B	06/14/2011 19:21	Scott W Freisher	1

*=This limit was used in the evaluation of the final result

Hydrazines by LC/MS/MS

Case Narrative
Conformance/Nonconformance
Summary

Lancaster Laboratories

CLIENT: Olin Corporation
SDG: OLN72

Specialty Services Group
Fraction: Hydrazines by LC/MS/MS

Hydrazines in Soil

Sample #	Client ID	Matrix Liquid	Matrix Solid	Comments
6310728	OC-SS-448-0.0/1.0-DUP		X	Field Duplicate Sample
6310729	OC-SS-448-0.0/1.0-XXX		X	Unspiked
6310730	OC-SS-448-0.0/1.0-XMS		X	Matrix Spike
6310731	OC-SS-448-0.0/1.0-MSD		X	Matrix Spike Duplicate

See QC Reference List for Associated Batch QC Samples

SAMPLE PREPARATION:

Samples were derivatized with benzaldehyde prior to analysis.

ANALYSIS:

There were no dilutions performed for analyses associated with samples in this SDG.

No problems were encountered with the analysis of the samples.

QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

Please note that US EPA Methods for organic compounds do not require action by the laboratory based on out-of-specification MS/MSD results.

DATA INTERPRETATION:

No further interpretation is necessary for the data submitted.

Lancaster Laboratories

CLIENT: Olin Corporation
SDG: OLN72

Specialty Services Group
Fraction: Hydrazines by LC/MS/MS

Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	
LCSD = Lab Control Sample Duplicate	* = Out of Specification
NC = Not calculated	NF = Not found

Narrative Reviewed and Approved 7/1/11 (Date) by Dorothy M Love.

OLN72 0016

QC Summary

Lancaster Laboratories

Quality Control Reference List
Specialty Services Group

CLIENT: Olin Corporation
SDG: OLN72

Fraction: Hydrazines by LC/MS/MS

Analysis	Batch Number	Sample Number	Analysis Date
Hydrazines in Soil	11165002	BLK	06/15/2011 22:22:00
		LCS	06/16/2011 01:04:00
		LCSD	06/16/2011 01:25:00
		6310728	06/16/2011 00:03:00
		6310729 UNSPK	06/15/2011 23:43:00
		6310730 MS	06/16/2011 01:45:00
		6310731 MSD	06/16/2011 02:05:00

OLN72 2818

Lancaster Laboratories

Quality Control Summary
Method Blank
Specialty Services Group
SDG: OLN72
Matrix: SOLID

Fraction: Hydrazines by LC/MS/MS

11165002 / BLK Analyte	Analysis Date	Blank Results	Units	MDL	LOQ
Hydrazine	06/15/11	N.D.	ng/g	0.50	2.0
Methylhydrazine	06/15/11	N.D.	ng/g	2.0	5.0
1,1-Dimethylhydrazine	06/15/11	N.D.	ng/g	2.0	5.0

OLN72 0019

Lancaster Laboratories

Quality Control Summary
Matrix Spike/Matrix Spike Duplicate

SDG: OLN72
Matrix: SOLID

Specialty Services Group
Fraction: Hydrazines by LC/MS/MS

UNSPK: 6310729 MS: 6310730 MSD: 6310731 **Analyte**	Batch: **11165002** (Sample number(s): 6310728-6310731) **Spike Added ng/g**	**Unspiked Conc ng/g**	**MS Conc ng/g**	**MSD Conc ng/g**	**MS %Rec**	**MSD %Rec**	**%Rec Limits**	**%RPD**	**%RPD Limits**
Hydrazine	120	1.58	13.77	12.56	10 *	9 *	11-102	9	30
Methylhydrazine	600	N.D.	50.61	36.38	8 *	6 *	10-92	33 *	30
1,1-Dimethylhydrazine	600	N.D.	55.45	55.84	9 *	9 *	10-116	1	30

OLN72 8529

Results are being reported on an as received basis.

Lancaster Laboratories

Quality Control Summary
Laboratory Control Standard (LCS)
Laboratory Control Standard Duplicate(LCSD)

SDG: OLN72
Matrix: SOLID

Specialty Services Group
Fraction: Hydrazines by LC/MS/MS

LCS LCSD Analyte	Batch: **11165002** (Sample number(s): 6310728-6310731) Spike Added ng/g	LCS Conc ng/g	LCSD Conc ng/g	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
Hydrazine	120	92.06	113.59	77	95	70-130	21	30
Methylhydrazine	600	424.3	481.02	71	80	70-130	13	30
1,1-Dimethylhydrazine	600	516.92	548.7	86	91	70-130	6	30

OLN72 6021

Sample Data

Lancaster Laboratories

LOQ/MDL Summary
Specialty Services Group

SDG: OLN72

Fraction: Hydrazines by LC/MS/MS

10346: Hydrazines in Soil Analyte Name	Default MDL	Default LOQ	Units
Hydrazine	0.50	2.0	ng/g
Methylhydrazine	2.0	5.0	ng/g
1,1-Dimethylhydrazine	2.0	5.0	ng/g

OLN72 6823

Lancaster Laboratories

LCMSMS ANALYSIS REPORT

Component Name: **Monomethylhydrazine**

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
conditioner	A11165002_01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
conditioner	A11165002_02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SYS(MDL)	A11165002_03	24970.60	N/A	24970.595	N/A	2.77233ug/kg	N/A	N/A
CAL1	A11165002_04	58896.46	N/A	58896.458	5	6.40898ug/kg	28.18	N/A
CAL2	A11165002_05	105001.17	N/A	105001.171	10	11.35113ug/kg	13.51	N/A
CAL3	A11165002_06	183559.44	N/A	183559.444	25	19.77211ug/kg	-20.91	N/A
CAL4	A11165002_07	415437.59	N/A	415437.590	50	44.62807ug/kg	-10.74	N/A
CAL5	A11165002_08	2072605.08	N/A	2072605.077	250	222.26658ug/kg	-11.09	N/A
CAL6	A11165002_09	4504468.74	N/A	4504468.743	500	482.94791ug/kg	-3.41	N/A
CAL7	A11165002_10	9448410.12	N/A	9448410.120	1000	1012.90905ug/kg	1.29	N/A
CAL8	A11165002_11	12030709.14	N/A	12030709.138	1250	1289.71616ug/kg	3.18	N/A
Conditioner	A11165002_12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Conditioner	A11165002_13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK Sand	A11165002_14	N/A	N/A	N/A	0	N/A	N/A	N/A
CCV1	A11165002_15	204017.63	N/A	204017.632	25	21.96511ug/kg	-12.14	N/A
Conditioner	A11165002_16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6310729(BKG)	A11165002_17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6310728	A11165002_18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV2	A11165002_19	398473.08	N/A	398473.082	50	42.80958ug/kg	-14.38	N/A
ICV	A11165002_20	4875265.14	N/A	4875265.142	N/A	522.69508ug/kg	N/A	N/A
LCS	A11165002_21	3957319.27	N/A	3957319.268	N/A	424.29674ug/kg	N/A	N/A
LCSD	A11165002_22	4486479.01	N/A	4486479.012	N/A	481.01952ug/kg	N/A	N/A
6310730 (MS)	A11165002_23	471272.24	N/A	471272.236	N/A	50.61322ug/kg	N/A	N/A
6310731(MSD)	A11165002_24	338527.47	N/A	338527.471	N/A	36.38377ug/kg	N/A	N/A
CCV3	A11165002_25	2076710.46	N/A	2076710.458	250	222.70665ug/kg	-10.92	N/A
N/A	A11165002_26	4588763.13	N/A	4588763.128	500	491.98377ug/kg	-1.60	N/A

Lancaster Laboratories

LCMSMS ANALYSIS REPORT

Component Name: **1,1-Dimethylhydrazine**

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
conditioner	A11165002_01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
conditioner	A11165002_02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SYS(MDL)	A11165002_03	24427.88	N/A	24427.879	N/A	3.83821ug/kg	N/A	N/A
CAL1	A11165002_04	50181.01	N/A	50181.009	5	6.44055ug/kg	28.81	N/A
CAL2	A11165002_05	112117.31	N/A	112117.312	10	12.69919ug/kg	26.99	N/A
CAL3	A11165002_06	167545.26	N/A	167545.255	25	18.30016ug/kg	-26.80	N/A
CAL4	A11165002_07	381544.38	N/A	381544.385	50	39.92469ug/kg	-20.15	N/A
CAL5	A11165002_08	2112373.87	N/A	2112373.869	250	214.82433ug/kg	-14.07	N/A
CAL6	A11165002_09	5003884.12	N/A	5003884.123	500	507.01031ug/kg	1.40	N/A
CAL7	A11165002_10	10155323.34	N/A	10155323.337	1000	1027.56122ug/kg	2.76	N/A
CAL8	A11165002_11	12487626.54	N/A	12487626.542	1250	1263.23955ug/kg	1.06	N/A
Conditioner	A11165002_12	11189.34	N/A	11189.337	N/A	2.50046ug/kg	N/A	N/A
Conditioner	A11165002_13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK Sand	A11165002_14	N/A	N/A	N/A	0	N/A	N/A	N/A
CCV1	A11165002_15	169966.34	N/A	169966.337	25	18.54481ug/kg	-25.82	N/A
Conditioner	A11165002_16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6310729(BKG)	A11165002_17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6310728	A11165002_18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CCV2	A11165002_19	402245.48	N/A	402245.481	50	42.01653ug/kg	-15.97	N/A
ICV	A11165002_20	5614302.18	N/A	5614302.178	N/A	568.69281ug/kg	N/A	N/A
LCS	A11165002_21	5101969.82	N/A	5101969.819	N/A	516.92183ug/kg	N/A	N/A
LCSD	A11165002_22	5416398.55	N/A	5416398.549	N/A	548.69473ug/kg	N/A	N/A
6310730 (MS)	A11165002_23	535146.49	N/A	535146.490	N/A	55.44612ug/kg	N/A	N/A
6310731(MSD)	A11165002_24	539001.85	N/A	539001.853	N/A	55.83570ug/kg	N/A	N/A
CCV3	A11165002_25	2163973.65	N/A	2163973.647	250	220.03847ug/kg	-11.98	N/A
N/A	A11165002_26	4940768.03	N/A	4940768.035	500	500.63245ug/kg	0.13	N/A

Lancaster Laboratories

LCMSMS ANALYSIS REPORT

Component Name: **Hydrazine**

Summary of Quan Results

Sample ID	Data File Name	Area	ISTD Area	Area Ratio	Specified Amount	Calculated Amount	% Diff	Excluded
conditioner	A11165002_01	N/A	N/A	N/A	N/A	N/A	N/A	N/A
conditioner	A11165002_02	N/A	N/A	N/A	N/A	N/A	N/A	N/A
SYS(MDL)	A11165002_03	8361.61	N/A	8361.611	N/A	0.74426ug/kg	N/A	N/A
CAL1	A11165002_04	16210.29	N/A	16210.294	1	1.16975ug/kg	16.98	N/A
CAL2	A11165002_05	30287.34	N/A	30287.338	2	1.93289ug/kg	-3.36	N/A
CAL3	A11165002_06	78579.41	N/A	78579.410	5	4.55090ug/kg	-8.98	N/A
CAL4	A11165002_07	175760.58	N/A	175760.585	10	9.81926ug/kg	-1.81	N/A
CAL5	A11165002_08	894343.94	N/A	894343.943	50	48.77498ug/kg	-2.45	N/A
CAL6	A11165002_09	1808875.65	N/A	1808875.647	100	98.35341ug/kg	-1.65	N/A
CAL7	A11165002_10	3666654.19	N/A	3666654.195	200	199.06698ug/kg	-0.47	N/A
CAL8	A11165002_11	4686078.54	N/A	4686078.544	250	254.33183ug/kg	1.73	N/A
Conditioner	A11165002_12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Conditioner	A11165002_13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BLK Sand	A11165002_14	N/A	N/A	N/A	0	N/A	N/A	N/A
CCV1	A11165002_15	92387.90	N/A	92387.898	5	5.29948ug/kg	5.99	N/A
Conditioner	A11165002_16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6310729(BKG)	A11165002_17	23728.40	N/A	23728.397	N/A	1.57732ug/kg	N/A	N/A
6310728	A11165002_18	38182.66	N/A	38182.657	N/A	2.36091ug/kg	N/A	N/A
CCV2	A11165002_19	165487.88	N/A	165487.879	10	9.26236ug/kg	-7.38	N/A
ICV	A11165002_20	2243482.95	N/A	2243482.946	N/A	121.91427ug/kg	N/A	N/A
LCS	A11165002_21	1692721.30	N/A	1692721.302	N/A	92.05647ug/kg	N/A	N/A
LCSD	A11165002_22	2089963.36	N/A	2089963.356	N/A	113.59169ug/kg	N/A	N/A
6310730 (MS)	A11165002_23	248567.91	N/A	248567.911	N/A	13.76628ug/kg	N/A	N/A
6310731(MSD)	A11165002_24	226365.90	N/A	226365.897	N/A	12.56267ug/kg	N/A	N/A
CCV3	A11165002_25	924834.87	N/A	924834.870	50	50.42795ug/kg	0.86	N/A
N/A	A11165002_26	1875343.42	N/A	1875343.421	100	101.95675ug/kg	1.96	N/A

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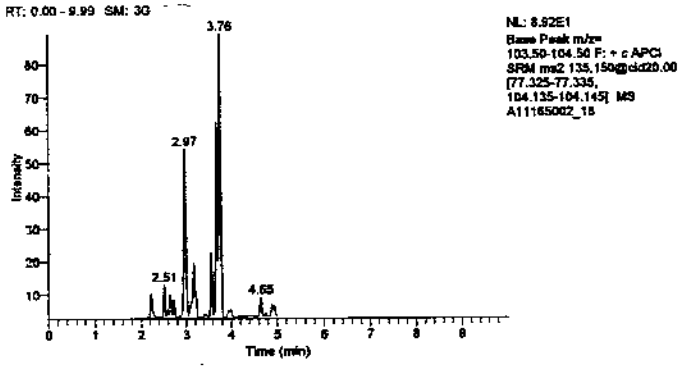
LCMSMS ANALYSIS REPORT

Sample Name:	6310728		
Data File:	A11165002_18	Acquisition Date:	06/16/11 12:03:58 AM
Sample Type:	Unknown	Sample ID:	6310728
Run Time(min):	9.99	Vial:	a:19
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
1,1-Dimethylhydrazine	N/A	ug/kg	N/A	N/A
Monomethylhydrazine	N/A	ug/kg	N/A	N/A
Hydrazine	2.361	ug/kg	38182.657	8.46



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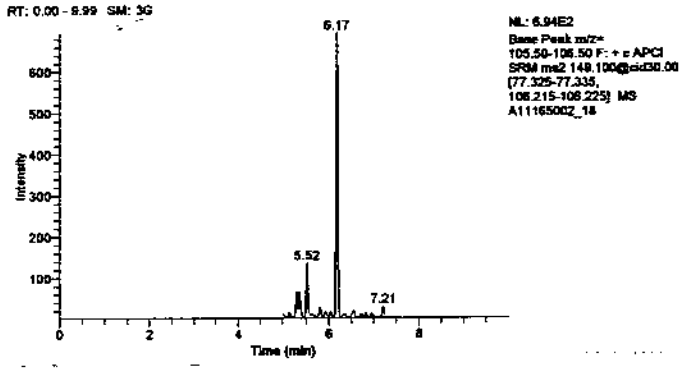

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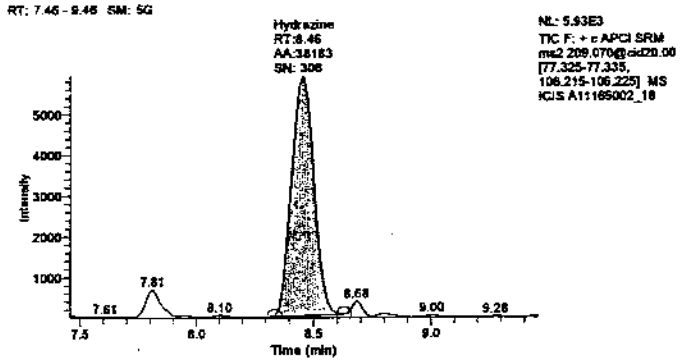
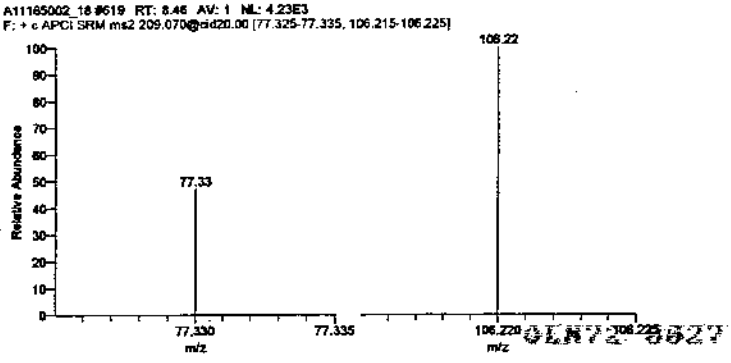




Thursday, June 16, 2011, 11:37:22

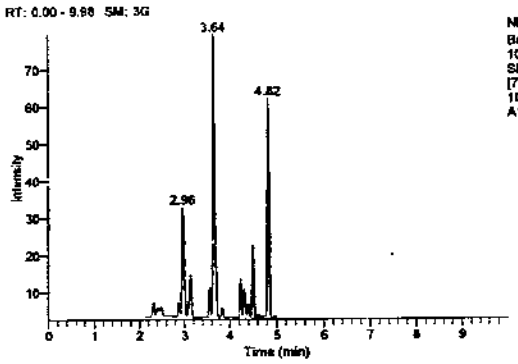
Lancaster Laboratories

LCMSMS ANALYSIS REPORT

Sample Name:	6310729(BKG)		
Data File:	A11165002_17	Acquisition Date:	06/15/11 11:43:41 PM
Sample Type:	Unknown	Sample ID:	6310729(BKG)
Run Time(min):	9.98	Vial:	a:18
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
1,1-Dimethylhydrazine	N/A	ug/kg	N/A	N/A
Monomethylhydrazine	N/A	ug/kg	N/A	N/A
Hydrazine	1.577	ug/kg	23728.397	8.43



NL: 7.84E1
Base Peak m/z=
103.50-104.50 F: + c APCI
SRM ms2 135.150@cid20.00
[77.325-77.335,
104.135-104.145] MS
A11165002_17

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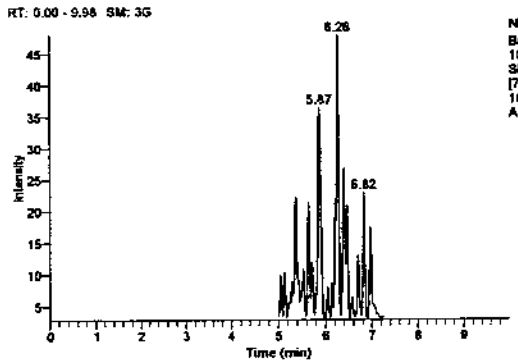

NL: 4.80E1
Base Peak m/z=
105.50-106.50 F: + c APCI
SRM ms2 149.100@cid30.00
[77.325-77.335,
106.215-106.225] MS
A11165002_17

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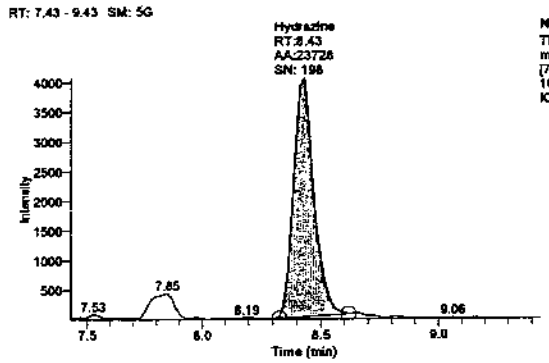
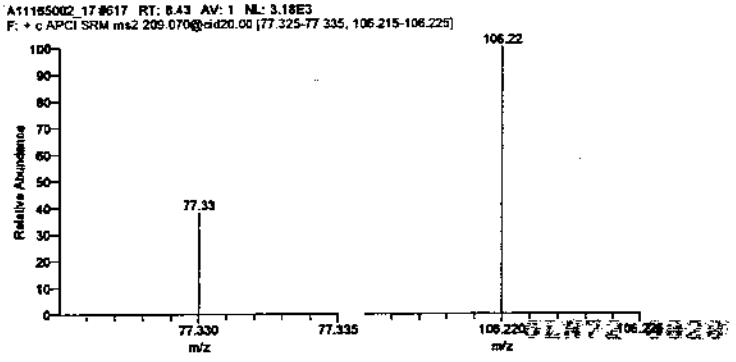


NL: 4.07E3
TIC F: + c APCI SRM
ms2 209.070@cid20.00
[77.325-77.335,
106.215-106.225] MS
ICIS A11165002_17



Standards Data

Lancaster Laboratories

Sequence Table

File Name	Sample ID	Sample Type	Level	Vial	Inj Vol	Dil Factor	Path	Inst Method	Proc Method
A11165002_01	conditioner	Unknown	N/A	A:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_02	conditioner	Unknown	N/A	A:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_03	SYS(MDL)	Unknown	N/A	A:2	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_04	CAL1	Std Bracket	1	A:3	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_05	CAL2	Std Bracket	2	A:4	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_06	CAL3	Std Bracket	3	A:5	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_07	CAL4	Std Bracket	4	A:6	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_08	CAL5	Std Bracket	5	A:7	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_09	CAL6	Std Bracket	6	A:8	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_10	CAL7	Std Bracket	7	A:9	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_11	CAL8	Std Bracket	8	A:10	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_12	Conditioner	Unknown	N/A	a:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_13	Conditioner	Unknown	N/A	a:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_14	BLK Sand	Blank	N/A	a:11	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil

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File Name	Sample ID	Sample Type	Level	Vial	Inj Vol	Dil Factor	Path	Inst Method	Proc Method
A11165002_15	CCV1	QC	1	a:5	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_16	Conditioner	Unknown	N/A	a:1	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_17	6310729(BKG)	Unknown	N/A	a:18	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_18	6310728	Unknown	N/A	a:19	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_19	CCV2	QC	2	a:6	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_20	ICV	QC	ICV	a:13	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_21	LCS	Unknown	N/A	a:14	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_22	LCSD	Unknown	N/A	a:15	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_23	6310730 (MS)	Unknown	N/A	a:16	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_24	6310731(MSD)	Unknown	N/A	a:17	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_25	CCV3	QC	3	a:7	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil
A11165002_26	CCV4	QC	4	A:8	5.0	1.000	C:\XCalibur\Hydrazine Analysis\2011June	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	C:\XCalibur\Hydrazine Analysis\Processing Methods\Hydraz_soil

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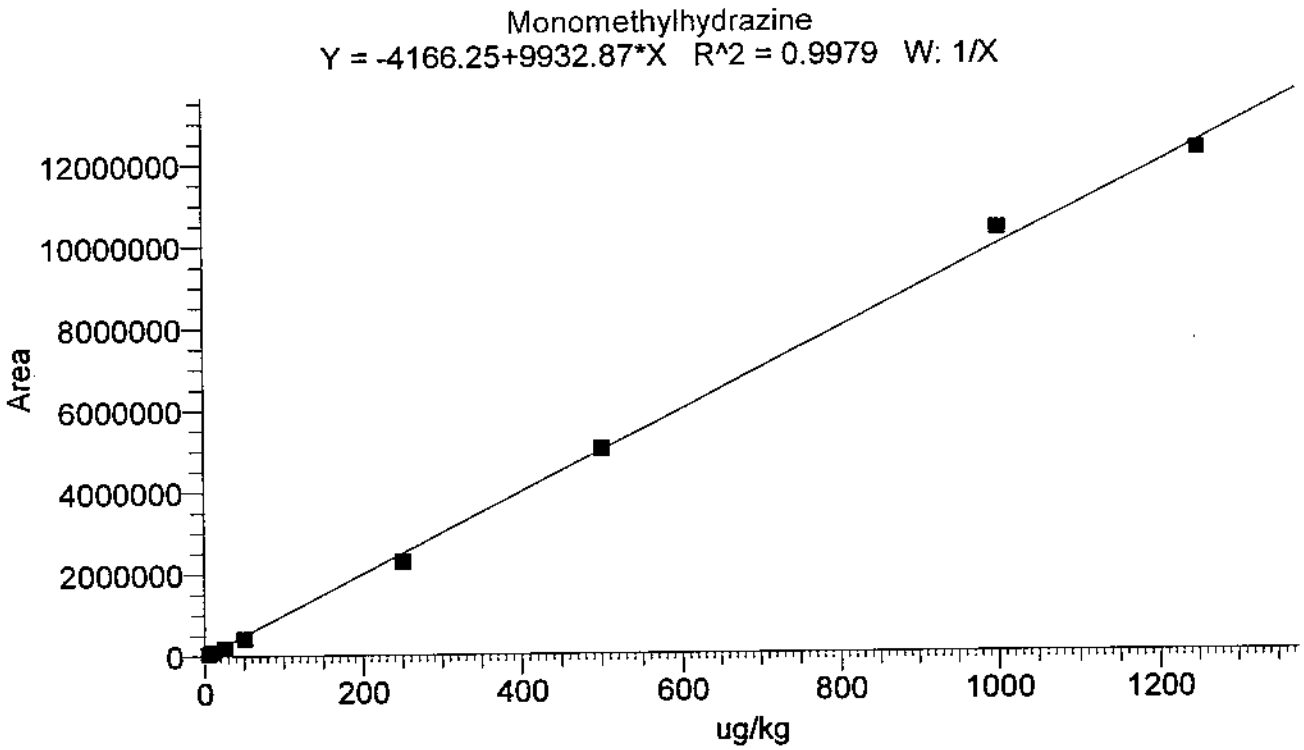
LCMSMS ANALYSIS REPORT

Component Name: **Monomethylhydrazine**



Identification		Component Name:	Monomethylhydrazine
Filter:	+ c APCI SRM ms2 135.15@cid20.00 [77.33-77.33, 104.14-104.15]	1st Trace Type:	Base Peak
2nd Trace Type:	N/A	Mass Range 1 (m/z):	
Mass Range 2 (m/z):		Wavelength Range 2 (nm):	N/A
Base Peak(BP):	104		
Retention Time		Expected RT (min):	3.74000
Window (sec):	30.00000	View Width (min):	2.50000
RT Reference:	No	Adjust Expected RT:	No
Adjust Using:	N/A		
Detection Options		Peak Detection Algorithm:	ICIS
		ICIS Peak Integration	
ICIS Smoothing Points:	3	Baseline Window:	75
Area Noise Factor:	5	Peak Noise Factor:	10
ICIS Constrain Peak Width:	No	ICIS Peak Height (%):	N/A
ICIS Tailing Factor:	N/A		
ICIS Peak Detection		ICIS Identify By:	Nearest RT
ICIS Minimum Peak Height (S/N):	50.0	ICIS Ion Ratio Confirmation:	N/A
ICIS Window %:	N/A	ICIS Qualifier Ion Coelution (min):	N/A
		ICIS Spectrum Thresholds	
ICIS Forward:	N/A	ICIS Reverse:	N/A
ICIS Match:	N/A		
ICIS Advanced Parameters		Noise Method:	Incos
Minimum Peak Width:	3	Multiplet Resolution:	10
Area Tail Extension:	5	Area Scan Window:	0
		Calibration	
Component Type:	Target Compound	%RSD Calculation Method:	Use calculated amounts
		Internal Standard	
ISTD Amount:	N/A	ISTD Units:	N/A
		Target Compounds	
ISTD:		Weighting:	OneOverX
Origin:	IgnoreOrigin	Response:	Area
Calibration Curve:	Linear	Target Units:	ug/kg
Number of Cal. Levels:	8	Number of QC Levels:	5
		Peak Purity Options	
Scan Threshold (mAU):	N/A	Peak Coverage (%):	N/A
Limit ScanRange (nm):	N/A		

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LCMSMS ANALYSIS REPORT

Component Cal Level Table

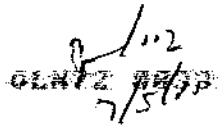
Cal Level	Amount
1	5.000
2	10.000
3	25.000
4	50.000
5	250.000
6	500.000
7	1000.000
8	1250.000

Component QC Level Table

QC Level	Amount
1	25.000
2	50.000
3	250.000
4	500.000
ICV	600.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount	Area	% Diff
CAL1	A11165002_04	6.42269ug/kg	59629.55	28.45
CAL2	A11165002_05	11.13659ug/kg	106452.04	11.37
CAL3	A11165002_06	19.50917ug/kg	189615.91	-21.96
CAL4	A11165002_07	43.06328ug/kg	423575.90	-13.87
CAL5	A11165002_08	230.61361ug/kg	2286489.53	-7.75
CAL6	A11165002_09	505.03852ug/kg	5012317.47	1.01
CAL7	A11165002_10	1041.32862ug/kg	10339219.10	4.13
CAL8	A11165002_11	1232.88752ug/kg	12241949.44	-1.37
CCV1	A11165002_15	21.76000ug/kg	211973.10	-12.96
CCV2	A11165002_19	42.58962ug/kg	418871.00	-14.82
CCV3	A11165002_25	229.99733ug/kg	2280368.08	-8.00
CCV4	A11165002_26	500.76816ug/kg	4969900.47	0.15
ICV	A11165002_20	541.21537ug/kg	5371657.56	-9.80



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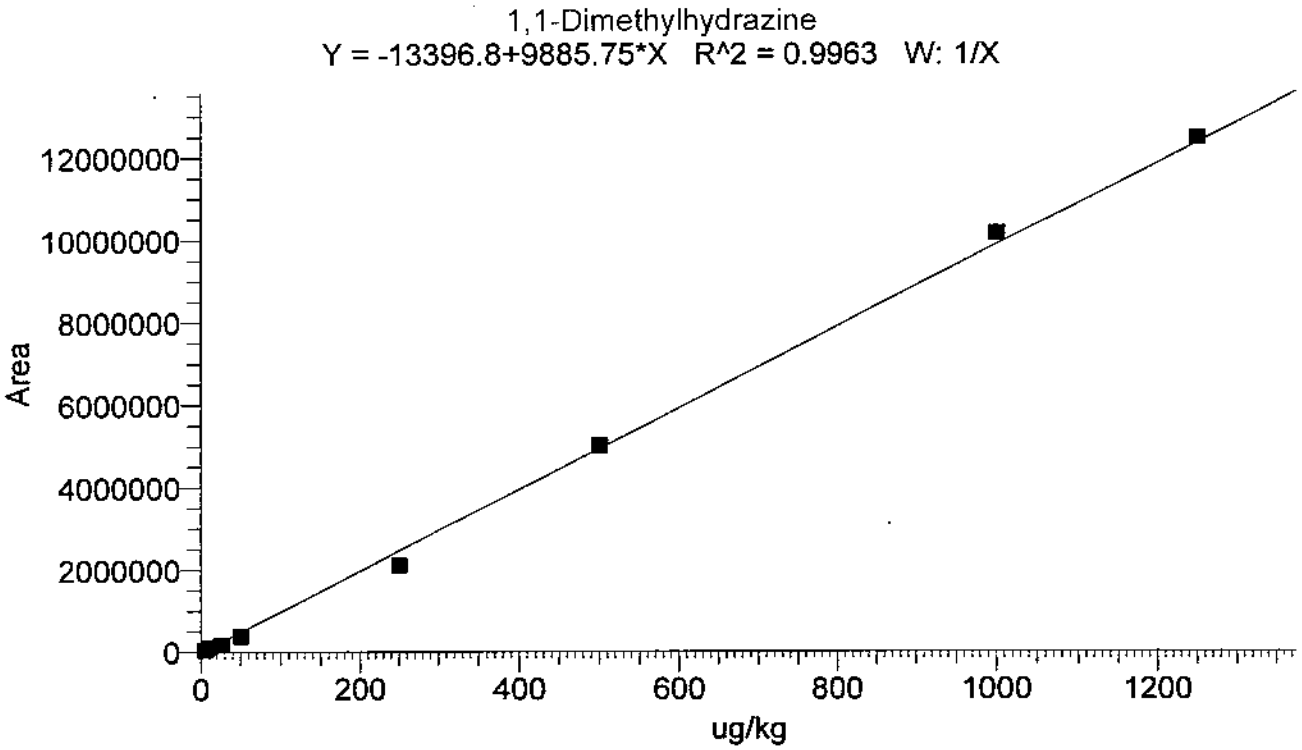
LCMSMS ANALYSIS REPORT

Component Name: **1,1-Dimethylhydrazine**



Identification		Component Name:	1,1-Dimethylhydrazine
Filter:	+ c APCI SRM ms2 149.10@cid30.00 [77.33-77.33, 106.22-106.22]	1st Trace Type:	Base Peak
2nd Trace Type:	N/A	Mass Range 1 (m/z):	
Mass Range 2 (m/z):		Wavelength Range 2 (nm):	N/A
Base Peak(BP):	106		
Retention Time		Expected RT (min):	5.91000
Window (sec):	30.00000	View Width (min):	2.50000
RT Reference:	No	Adjust Expected RT:	No
Adjust Using:	N/A		
Detection Options		Peak Detection Algorithm:	ICIS
		ICIS Peak Integration	
ICIS Smoothing Points:	3	Baseline Window:	75
Area Noise Factor:	5	Peak Noise Factor:	10
ICIS Constrain Peak Width:	No	ICIS Peak Height (%):	N/A
ICIS Tailing Factor:	N/A		
ICIS Peak Detection		ICIS Identify By:	Nearest RT
ICIS Minimum Peak Height (S/N):	100.0	ICIS Ion Ratio Confirmation:	N/A
ICIS Window %:	N/A	ICIS Qualifier Ion Coelution (min):	N/A
		ICIS Spectrum Thresholds	
ICIS Forward:	N/A	ICIS Reverse:	N/A
ICIS Match:	N/A		
ICIS Advanced Parameters		Noise Method:	Incos
Minimum Peak Width:	3	Multiplet Resolution:	10
Area Tail Extension:	5	Area Scan Window:	0
		Calibration	
Component Type:	Target Compound	%RSD Calculation Method:	Use calculated amounts
		Internal Standard	
ISTD Amount:	N/A	ISTD Units:	N/A
		Target Compounds	
ISTD:		Weighting:	OneOverX
Origin:	IgnoreOrigin	Response:	Area
Calibration Curve:	Linear	Target Units:	ug/kg
Number of Cal. Levels:	8	Number of QC Levels:	5
		Peak Purity Options	
Scan Threshold (mAU):	N/A	Peak Coverage (%):	N/A
Limit ScanRange (nm):	N/A		

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LCMSMS ANALYSIS REPORT

Component Cal Level Table

Cal Level	Amount
1	5.000
2	10.000
3	25.000
4	50.000
5	250.000
6	500.000
7	1000.000
8	1250.000

Component QC Level Table

QC Level	Amount
1	25.000
2	50.000
3	250.000
4	500.000
ICV	600.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount	Area	% Diff
CAL1	A11165002_04	6.43126ug/kg	50181.01	28.63
CAL2	A11165002_05	12.69646ug/kg	112117.31	26.96
CAL3	A11165002_06	18.30331ug/kg	167545.26	-26.79
CAL4	A11165002_07	39.95054ug/kg	381544.38	-20.10
CAL5	A11165002_08	215.03372ug/kg	2112373.87	-13.99
CAL6	A11165002_09	507.52633ug/kg	5003884.12	1.51
CAL7	A11165002_10	1028.62353ug/kg	10155323.34	2.86
CAL8	A11165002_11	1261.43485ug/kg	12456839.09	0.91
CCV1	A11165002_15	18.54822ug/kg	169966.34	-25.81
CCV2	A11165002_19	42.04457ug/kg	402245.48	-15.91
CCV3	A11165002_25	220.25333ug/kg	2163973.65	-11.90
CCV4	A11165002_26	501.14178ug/kg	4940768.03	0.23
ICV	A11165002_20	569.27357ug/kg	5614302.18	-5.12

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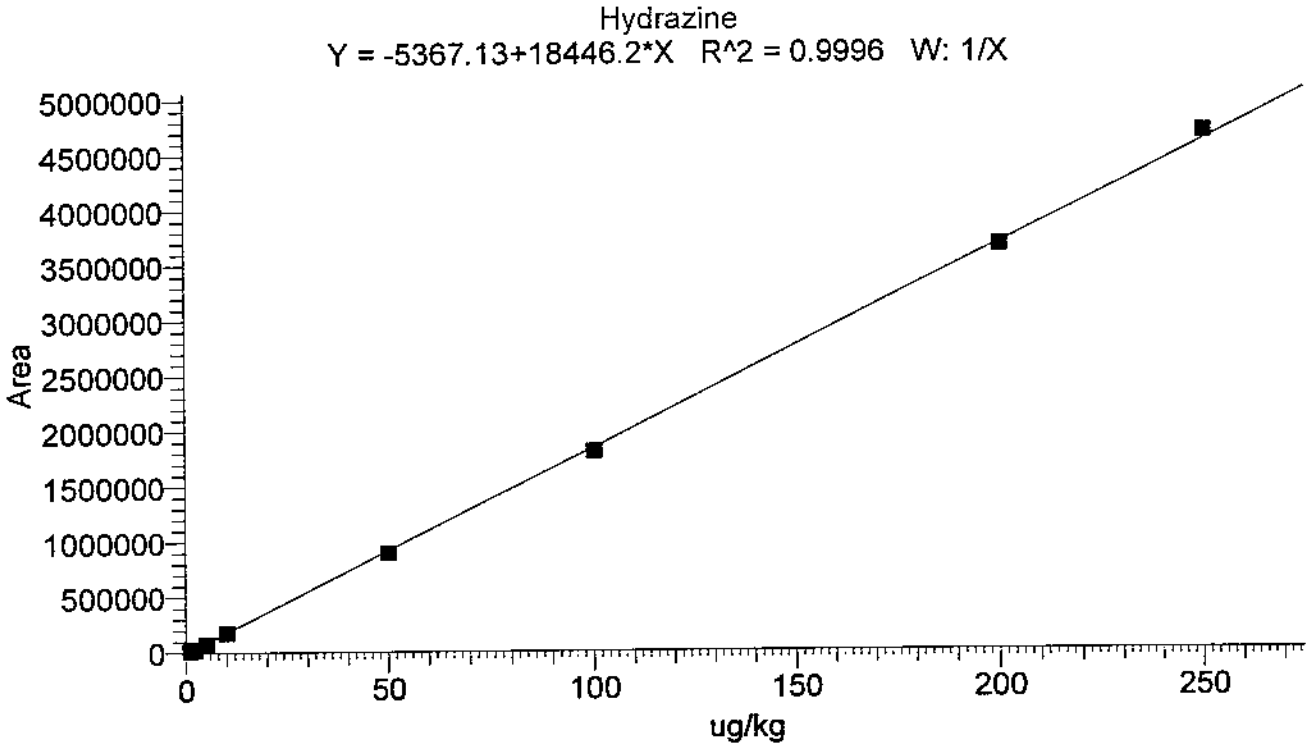
LCMSMS ANALYSIS REPORT

Component Name: **Hydrazine**



Identification		Component Name:	Hydrazine
Filter:	+ c APCI SRM ms2 209.07@cid20.00 [77.33-77.33, 106.22-106.22]	1st Trace Type:	TIC
2nd Trace Type:	N/A	Mass Range 1 (m/z):	
Mass Range 2 (m/z):		Wavelength Range 2 (nm):	N/A
Base Peak(BP):			
Retention Time		Expected RT (min):	8.50000
Window (sec):	30.00000	View Width (min):	2.00000
RT Reference:	No	Adjust Expected RT:	No
Adjust Using:	N/A		
Detection Options		Peak Detection Algorithm:	ICIS
		ICIS Peak Integration	
ICIS Smoothing Points:	5	Baseline Window:	100
Area Noise Factor:	5	Peak Noise Factor:	10
ICIS Constrain Peak Width:	No	ICIS Peak Height (%):	N/A
ICIS Tailing Factor:	N/A		
ICIS Peak Detection		ICIS Identify By:	Nearest RT
ICIS Minimum Peak Height (S/N):	50.0	ICIS Ion Ratio Confirmation:	N/A
ICIS Window %:	N/A	ICIS Qualifier Ion Coelution (min):	N/A
		ICIS Spectrum Thresholds	
ICIS Forward:	N/A	ICIS Reverse:	N/A
ICIS Match:	N/A		
ICIS Advanced Parameters		Noise Method:	Incos
Minimum Peak Width:	3	Multiplet Resolution:	10
Area Tail Extension:	5	Area Scan Window:	0
		Calibration	
Component Type:	Target Compound	%RSD Calculation Method:	Use calculated amounts
		Internal Standard	
ISTD Amount:	N/A	ISTD Units:	N/A
		Target Compounds	
ISTD:		Weighting:	OneOverX
Origin:	IgnoreOrigin	Response:	Area
Calibration Curve:	Linear	Target Units:	ug/kg
Number of Cal. Levels:	8	Number of QC Levels:	5
		Peak Purity Options	
Scan Threshold (mAU):	N/A	Peak Coverage (%):	N/A
Limit ScanRange (nm):	N/A		

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LCMSMS ANALYSIS REPORT

Component Cal Level Table

Cal Level	Amount
1	1.000
2	2.000
3	5.000
4	10.000
5	50.000
6	100.000
7	200.000
8	250.000

Component QC Level Table

QC Level	Amount
1	5.000
2	10.000
3	50.000
4	100.000
ICV	120.000

ICV & CCV Result Table

Sample ID	Data File Name	Calculated Amount	Area	% Diff
CAL1	A11165002_04	1.16975ug/kg	16210.29	16.98
CAL2	A11165002_05	1.93289ug/kg	30287.34	-3.36
CAL3	A11165002_06	4.55090ug/kg	78579.41	-8.98
CAL4	A11165002_07	9.81926ug/kg	175760.58	-1.81
CAL5	A11165002_08	48.77498ug/kg	894343.94	-2.45
CAL6	A11165002_09	98.35341ug/kg	1808875.65	-1.65
CAL7	A11165002_10	199.06698ug/kg	3666654.19	-0.47
CAL8	A11165002_11	254.33183ug/kg	4686078.54	1.73
CCV1	A11165002_15	5.29948ug/kg	92387.90	5.99
CCV2	A11165002_19	9.26236ug/kg	165487.88	-7.38
CCV3	A11165002_25	50.42795ug/kg	924834.87	0.86
CCV4	A11165002_26	101.95675ug/kg	1875343.42	1.96
ICV	A11165002_20	121.91427ug/kg	2243482.95	1.60

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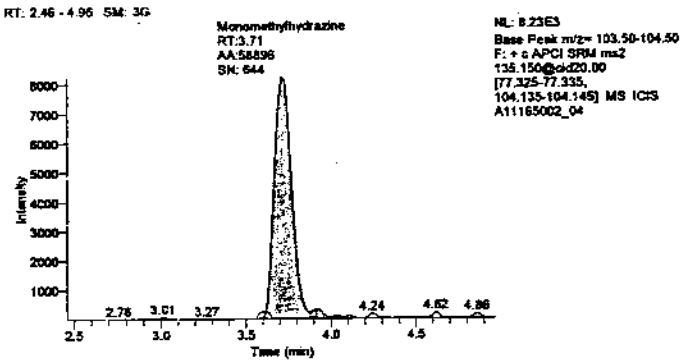
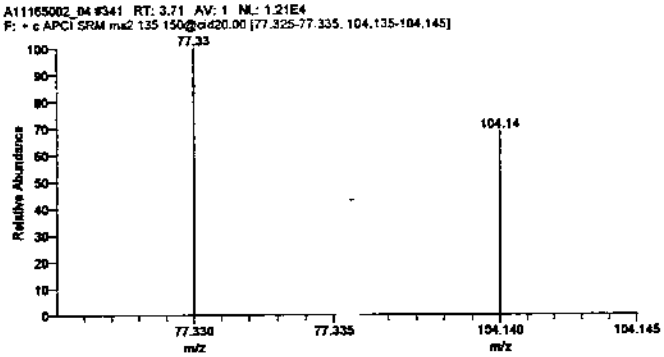
LCMSMS ANALYSIS REPORT

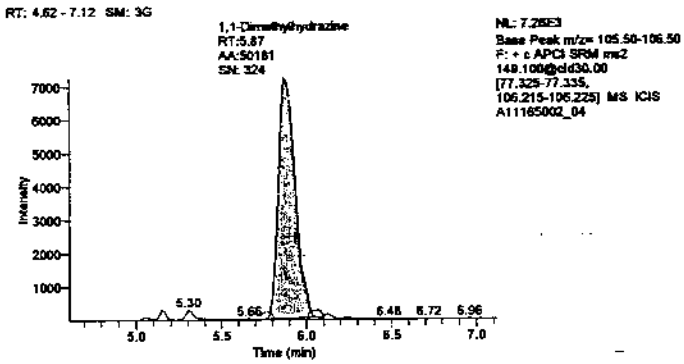
Sample Name:	CAL1		
Data File:	A11165002_04	Acquisition Date:	06/15/11 06:59:56 PM
Sample Type:	Std Bracket	Sample ID:	CAL1
Run Time(min):	9.98	Vial:	A:3
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

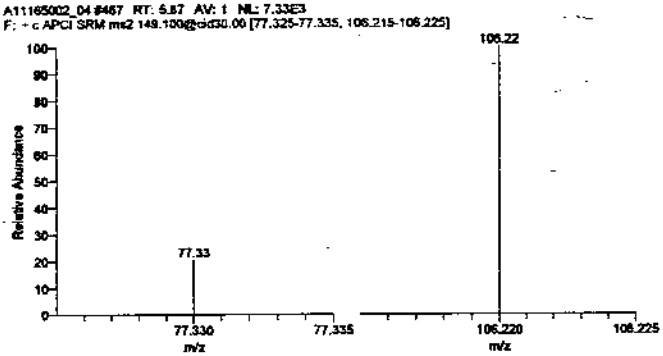
Quan Peak Table

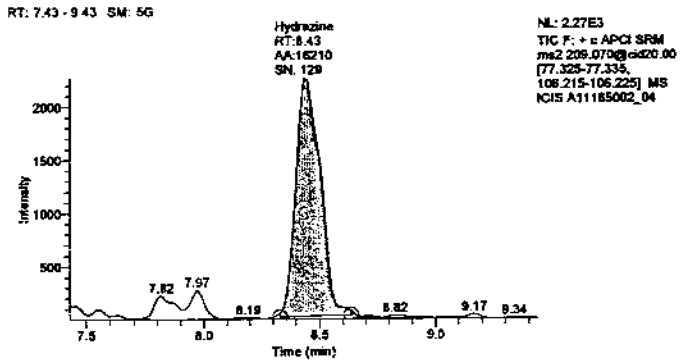
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	6.409	ug/kg	58896.458	3.71
1,1-Dimethylhydrazine	6.441	ug/kg	50181.009	5.87
Hydrazine	1.170	ug/kg	16210.294	8.43

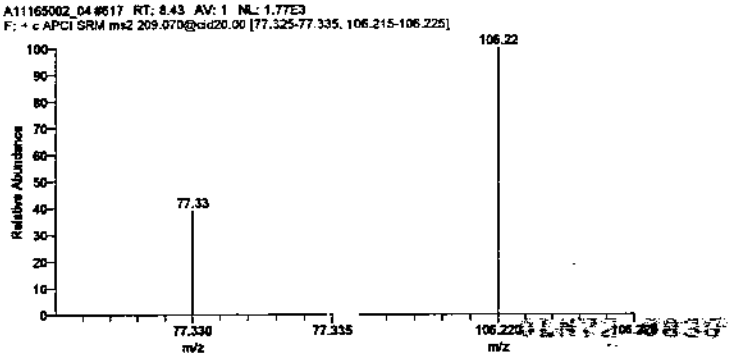












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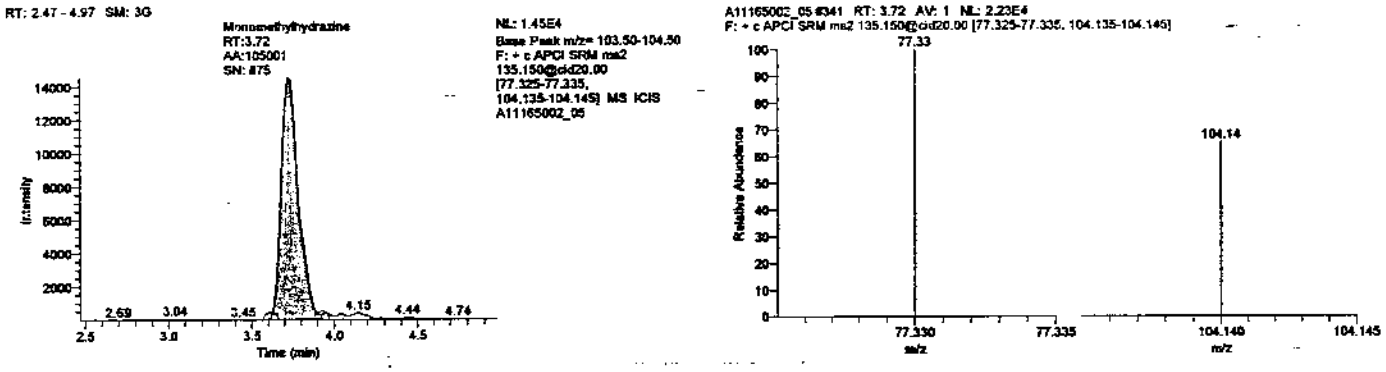
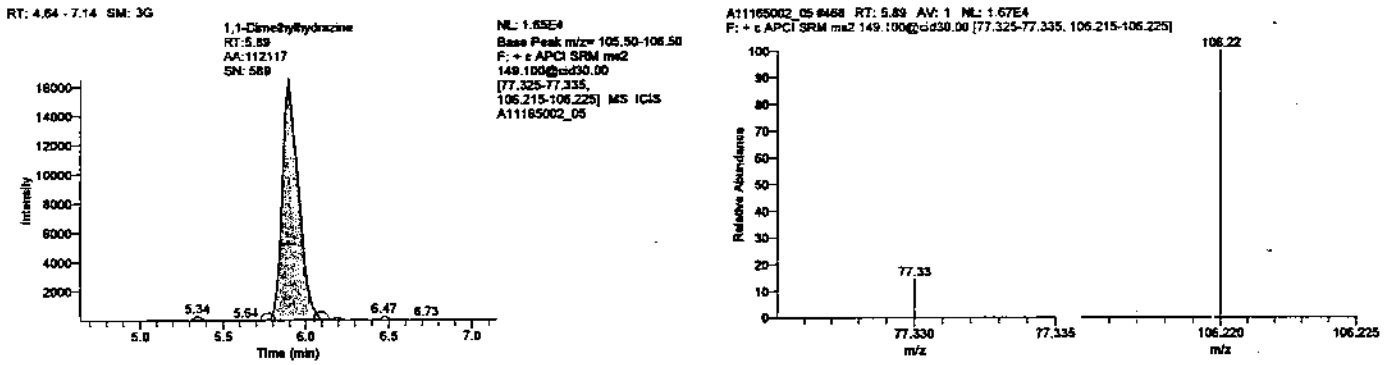
LCMSMS ANALYSIS REPORT

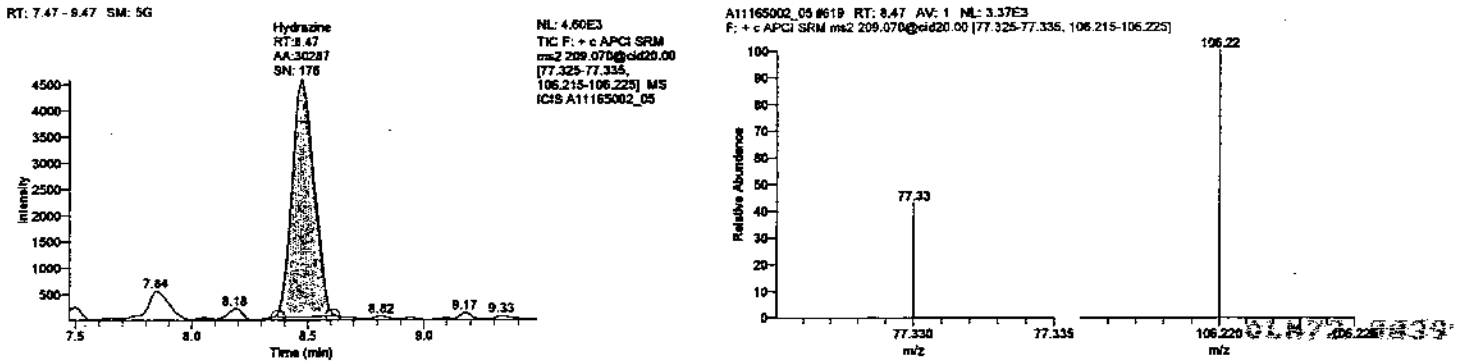
Sample Name:	CAL2		
Data File:	A11165002_05	Acquisition Date:	06/15/11 07:20:12 PM
Sample Type:	Std Bracket	Sample ID:	CAL2
Run Time(min):	9.99	Vial:	A:4
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	11.351	ug/kg	105001.171	3.72
1,1-Dimethylhydrazine	12.699	ug/kg	112117.312	5.89
Hydrazine	1.933	ug/kg	30287.338	8.47







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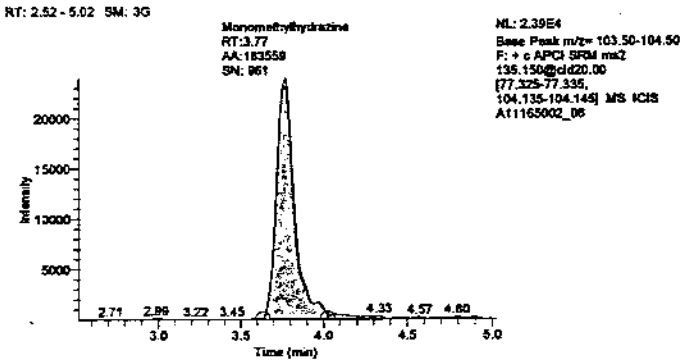
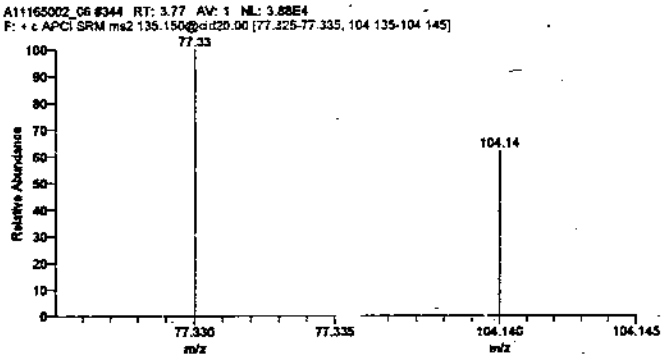
LCMSMS ANALYSIS REPORT

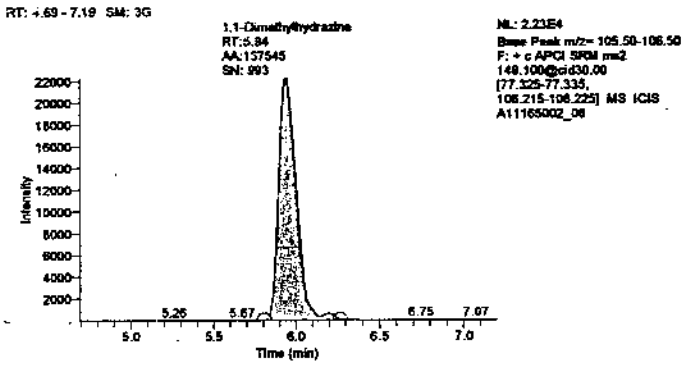
Sample Name:	CAL3		
Data File:	A11165002_06	Acquisition Date:	06/15/11 07:40:25 PM
Sample Type:	Std Bracket	Sample ID:	CAL3
Run Time(min):	9.99	Vial:	A:5
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

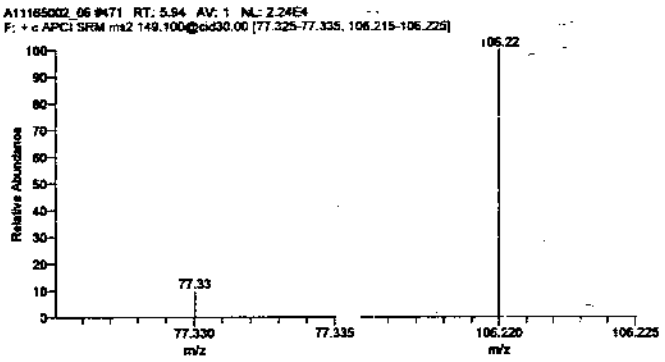
Quan Peak Table

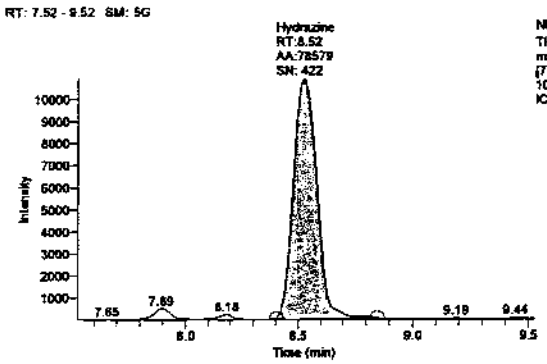
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	19.772	ug/kg	183559.444	3.77
1,1-Dimethylhydrazine	18.300	ug/kg	167545.255	5.94
Hydrazine	4.551	ug/kg	78579.410	8.52

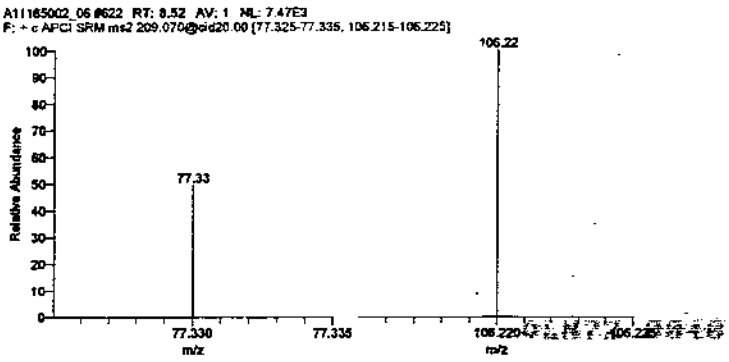












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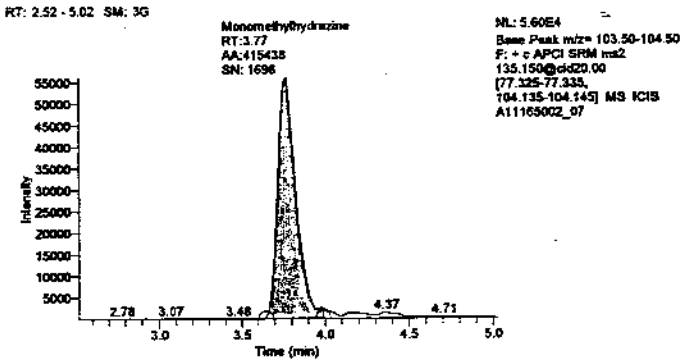
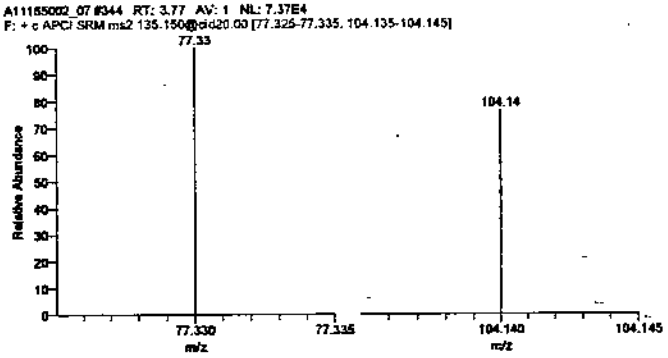
LCMSMS ANALYSIS REPORT

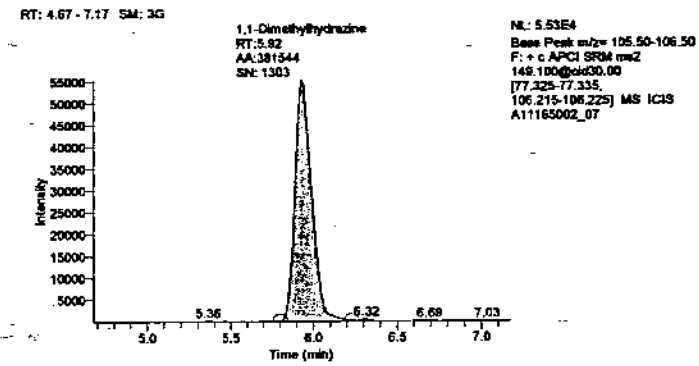
Sample Name:	CAL4		
Data File:	A11165002_07	Acquisition Date:	06/15/11 08:00:42 PM
Sample Type:	Std Bracket	Sample ID:	CAL4
Run Time(min):	9.99	Vial:	A:6
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

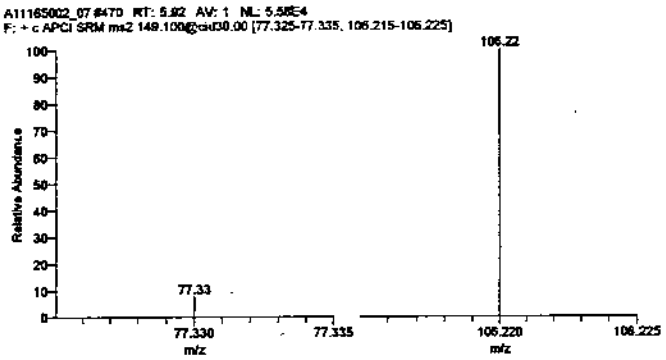
Quan Peak Table

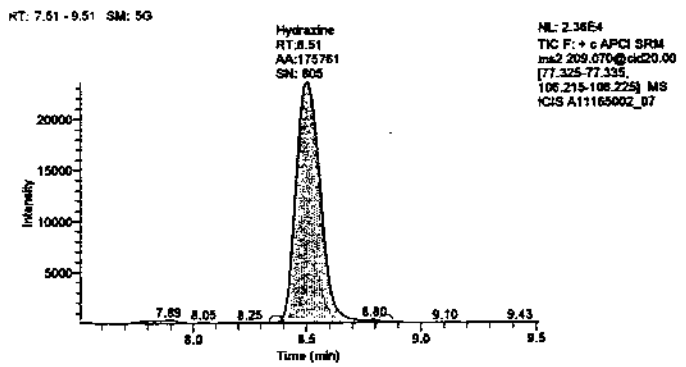
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	44.628	ug/kg	415437.590	3.77
1,1-Dimethylhydrazine	39.925	ug/kg	381544.385	5.92
Hydrazine	9.819	ug/kg	175760.585	8.51

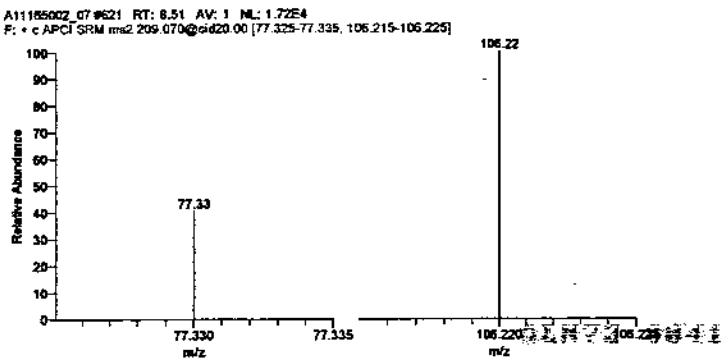












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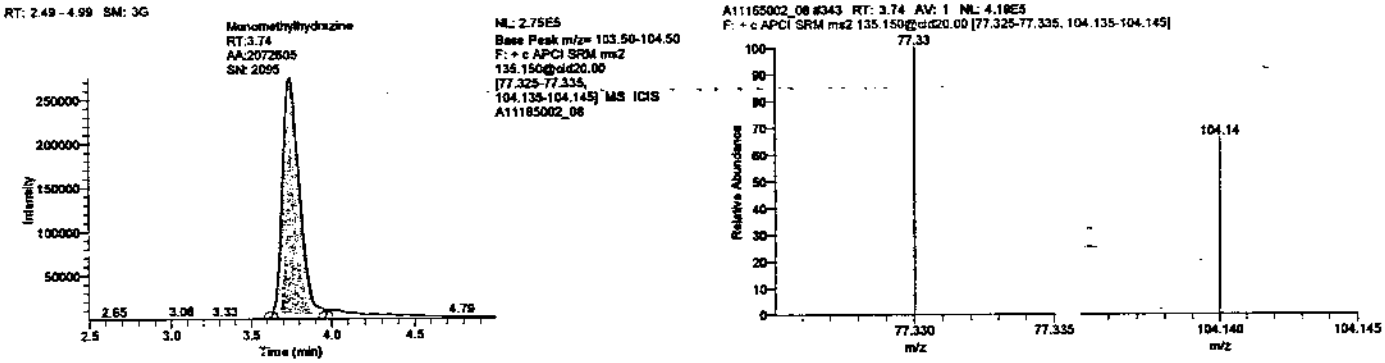
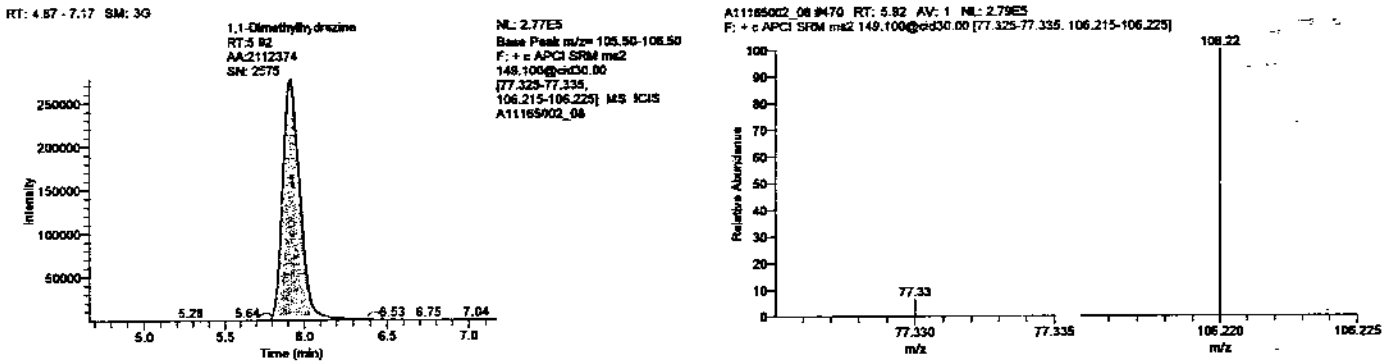
LCMSMS ANALYSIS REPORT

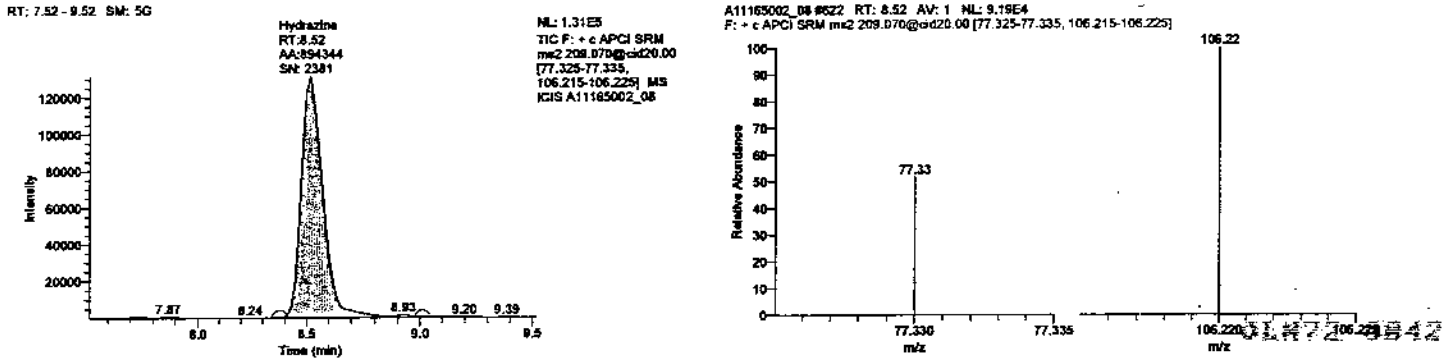
Sample Name:	CAL5		
Data File:	A11165002_08	Acquisition Date:	06/15/11 08:21:00 PM
Sample Type:	Std Bracket	Sample ID:	CAL5
Run Time(min):	9.98	Vial:	A:7
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	222.267	ug/kg	2072605.077	3.74
1,1-Dimethylhydrazine	214.824	ug/kg	2112373.869	5.92
Hydrazine	48.775	ug/kg	894343.943	8.52







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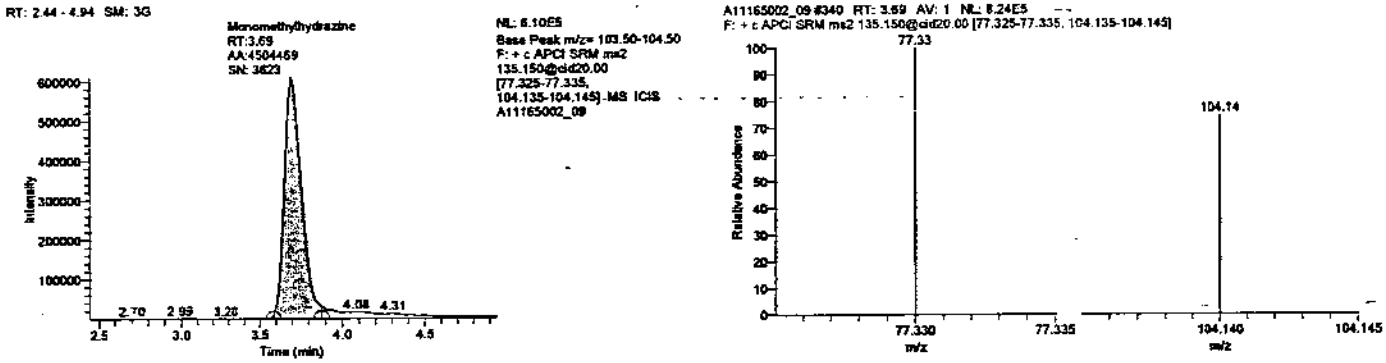
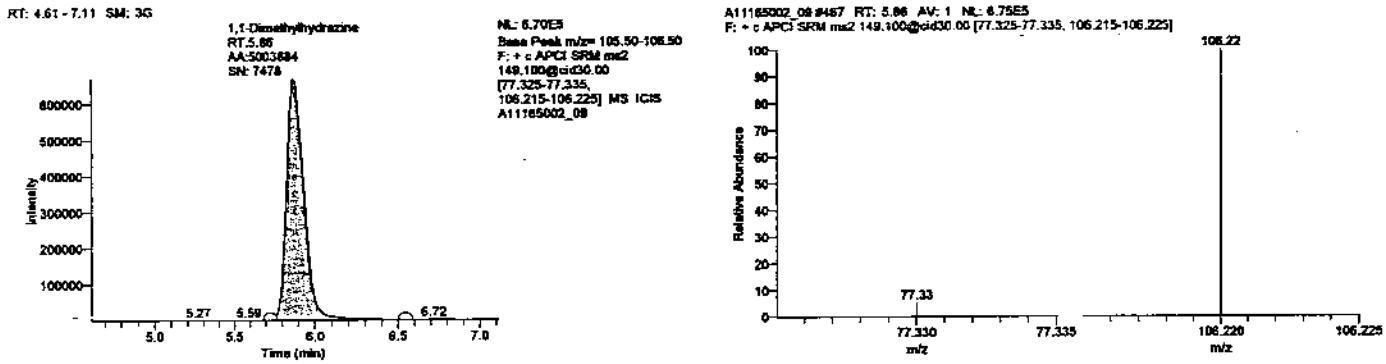
LCMSMS ANALYSIS REPORT

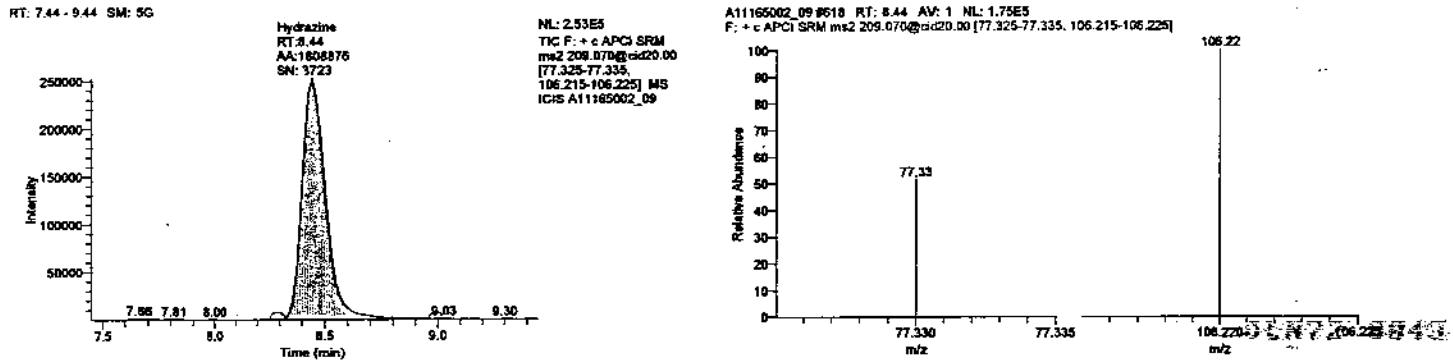
Sample Name:	CAL6		
Data File:	A11165002_09	Acquisition Date:	06/15/11 08:41:13 PM
Sample Type:	Std Bracket	Sample ID:	CAL6
Run Time(min):	9.99	Vial:	A:8
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	482.948	ug/kg	4504468.743	3.69
1,1-Dimethylhydrazine	507.010	ug/kg	5003884.123	5.86
Hydrazine	98.353	ug/kg	1808875.647	8.44







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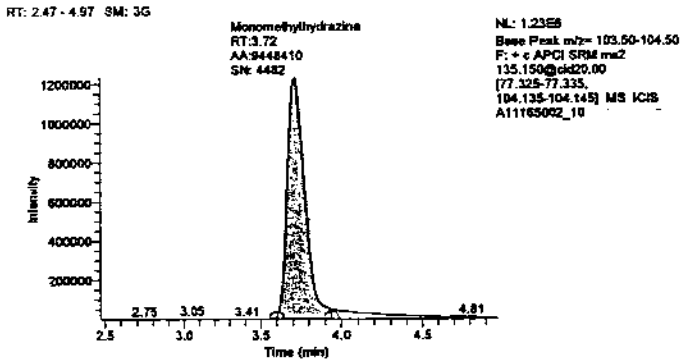
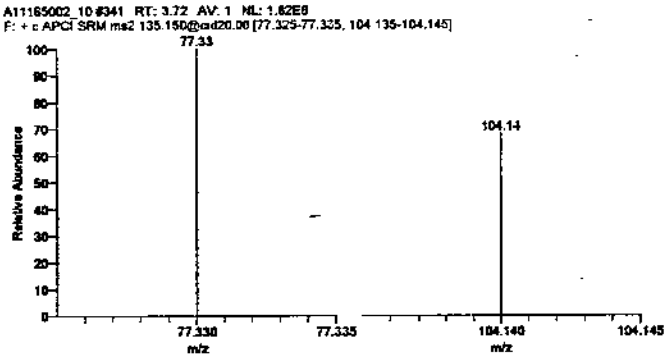
LCMSMS ANALYSIS REPORT

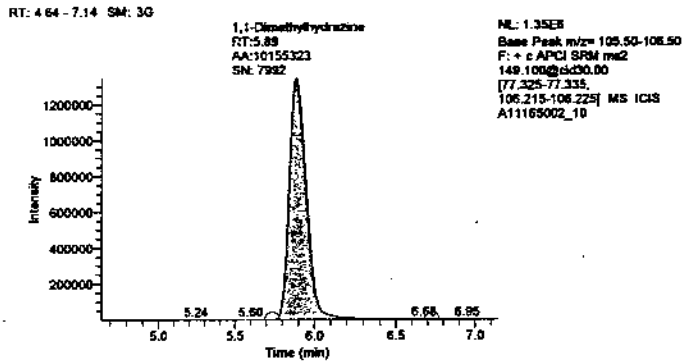
Sample Name:	CAL7		
Data File:	A11165002_10	Acquisition Date:	06/15/11 09:01:30 PM
Sample Type:	Std Bracket	Sample ID:	CAL7
Run Time(min):	9.99	Vial:	A:9
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

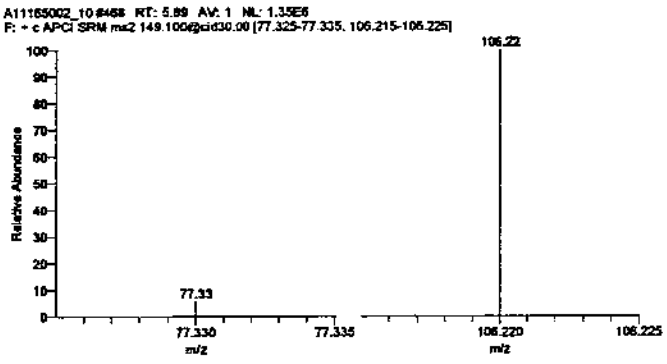
Quan Peak Table

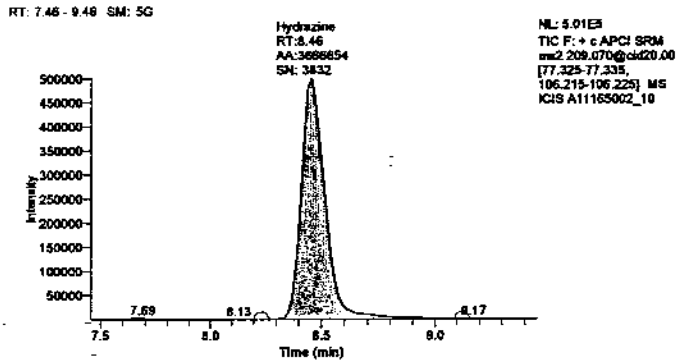
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	1012.909	ug/kg	9448410.120	3.72
1,1-Dimethylhydrazine	1027.561	ug/kg	10155323.337	5.89
Hydrazine	199.067	ug/kg	3666654.195	8.46

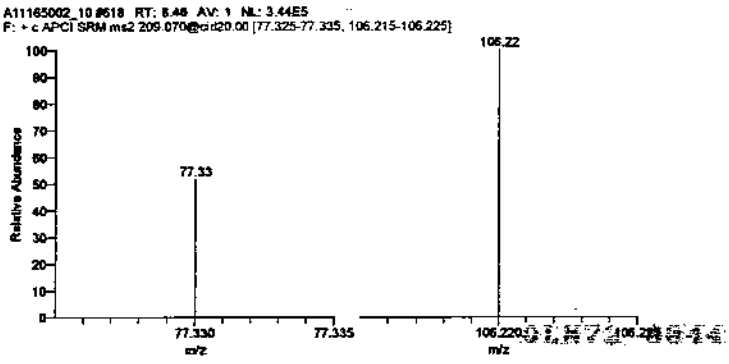












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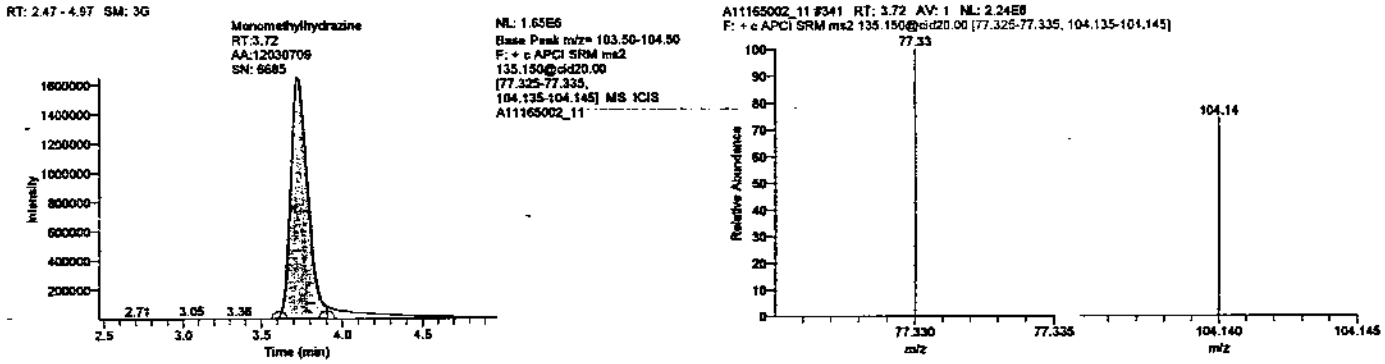
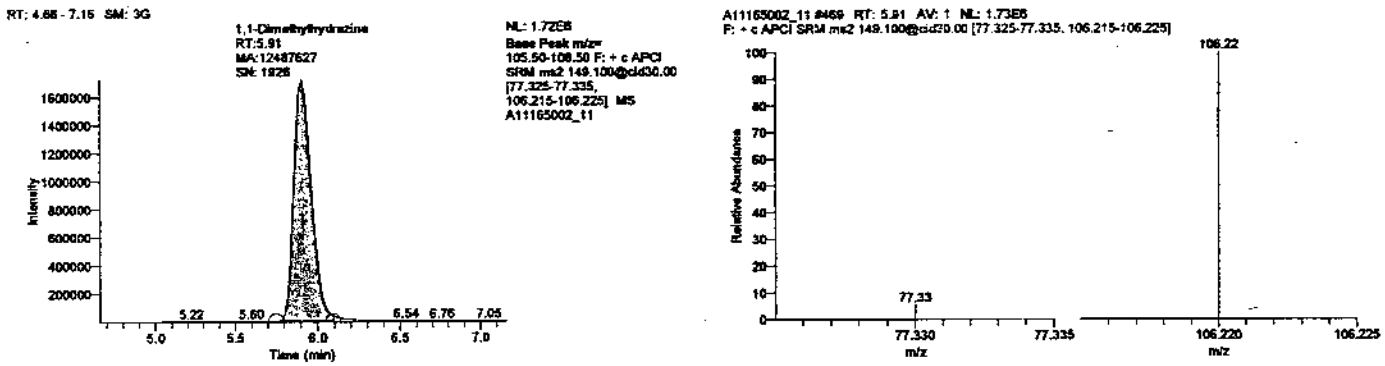
LCMSMS ANALYSIS REPORT

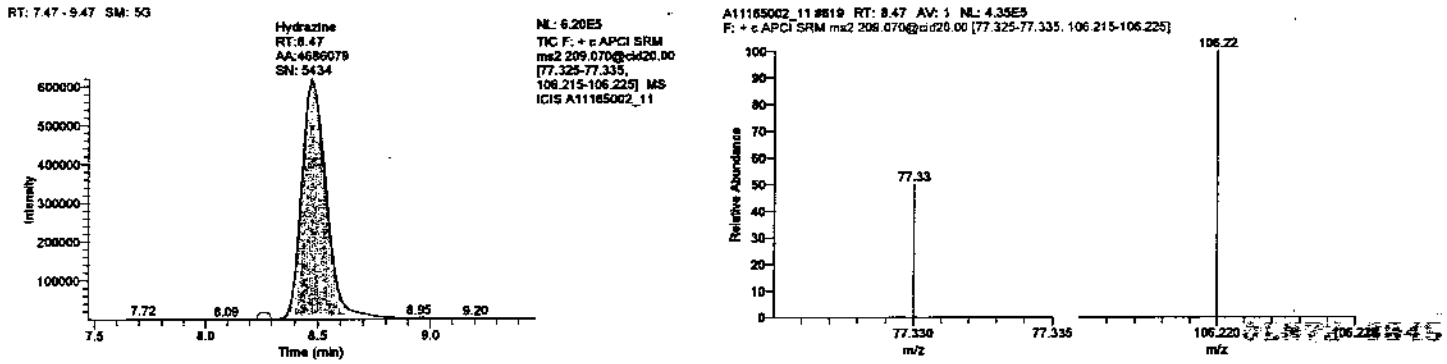
Sample Name:	CAL8		
Data File:	A11165002_11	Acquisition Date:	06/15/11 09:21:47 PM
Sample Type:	Std Bracket	Sample ID:	CAL8
Run Time(min):	9.99	Vial:	A:10
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	1289.716	ug/kg	12030709.138	3.72
1,1-Dimethylhydrazine	1263.240	ug/kg	12487626.542	5.91
Hydrazine	254.332	ug/kg	4686078.544	8.47







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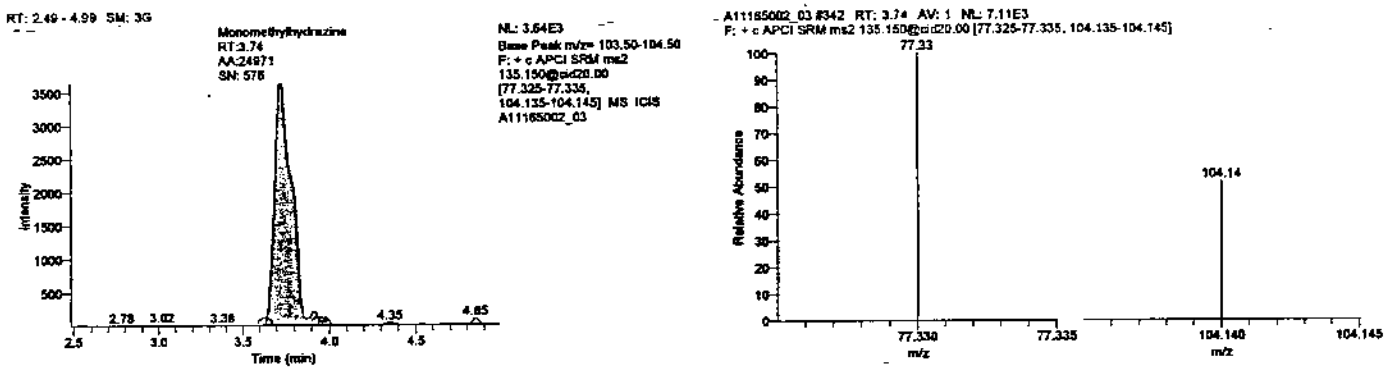
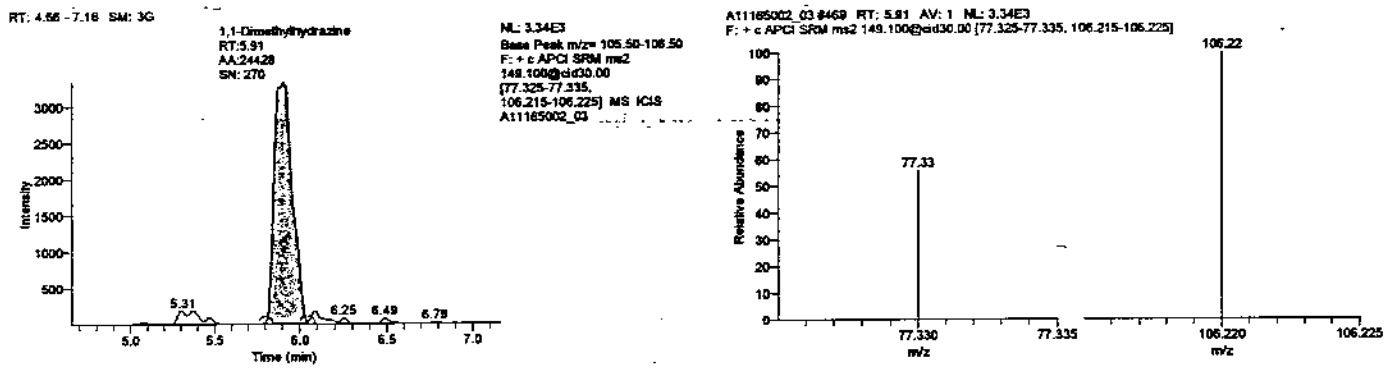
LCMSMS ANALYSIS REPORT

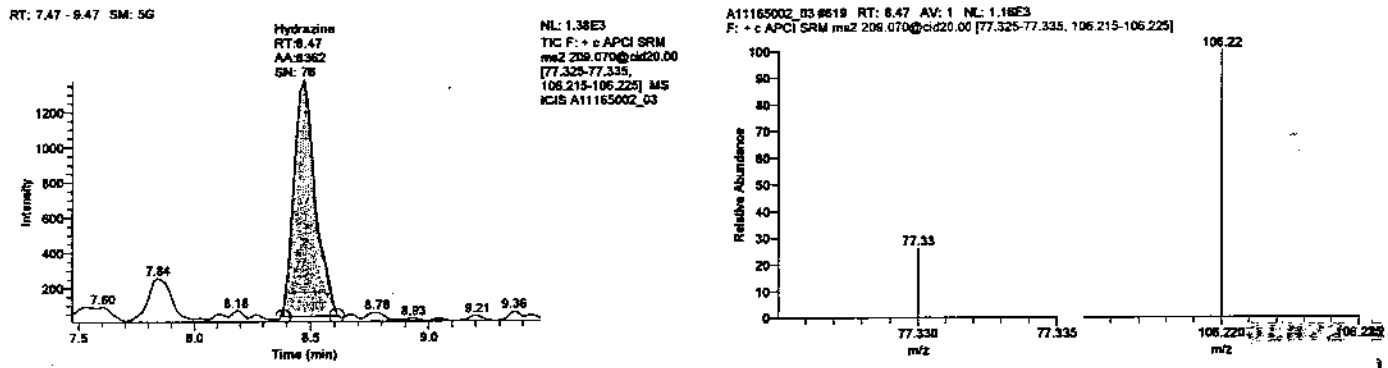
Sample Name:	SYS(MDL)		
Data File:	A11165002_03	Acquisition Date:	06/15/11 06:39:39 PM
Sample Type:	Unknown	Sample ID:	SYS(MDL)
Run Time(min):	9.99	Vial:	A:2
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	2.772	ug/kg	24970.595	3.74
1,1-Dimethylhydrazine	3.838	ug/kg	24427.879	5.91
Hydrazine	0.744	ug/kg	8361.611	8.47







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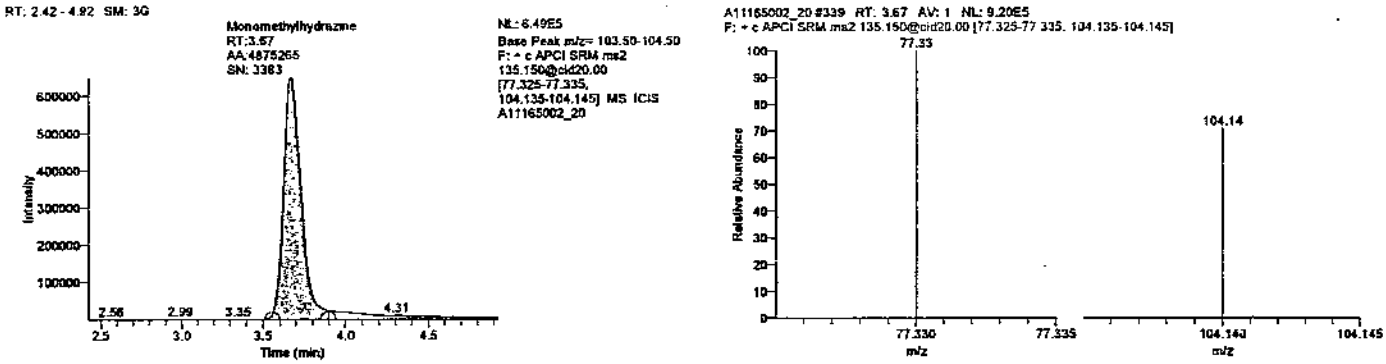
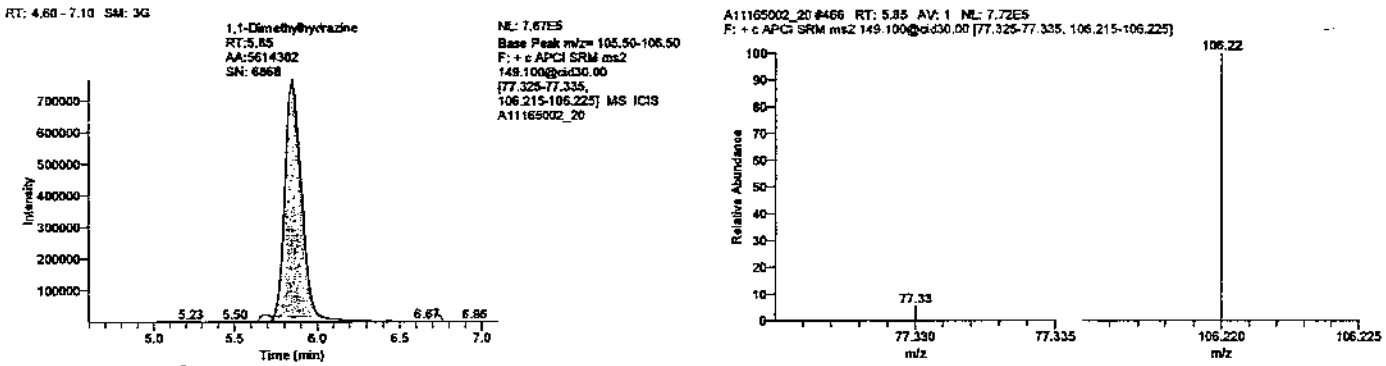
LCMSMS ANALYSIS REPORT

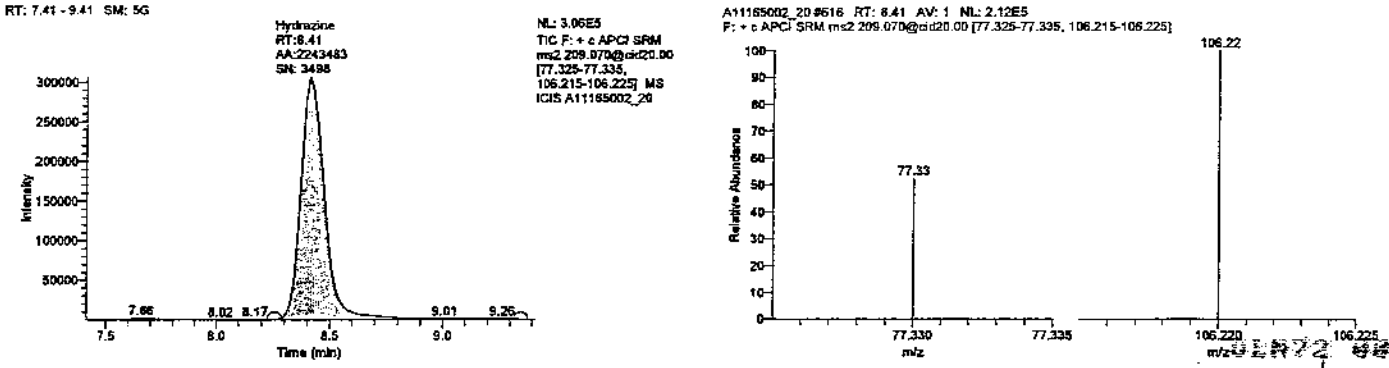
Sample Name:	ICV		
Data File:	A11165002_20	Acquisition Date:	06/16/11 12:44:32 AM
Sample Type:	Unknown	Sample ID:	ICV
Run Time(min):	9.99	Vial:	a:13
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	522.695	ug/kg	4875265.142	3.67
1,1-Dimethylhydrazine	568.693	ug/kg	5614302.178	5.85
Hydrazine	121.914	ug/kg	2243482.946	8.41







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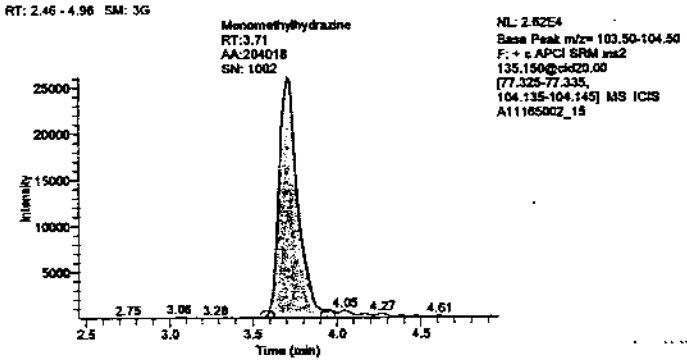
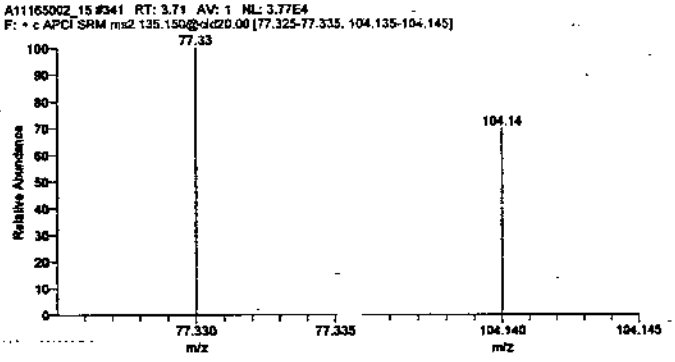
LCMSMS ANALYSIS REPORT

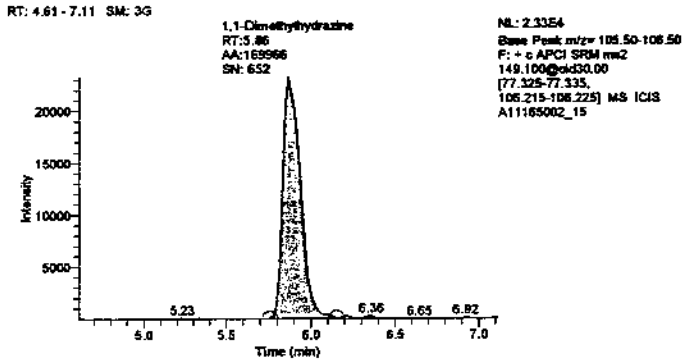
Sample Name:	CCV1		
Data File:	A11165002_15	Acquisition Date:	06/15/11 11:03:08 PM
Sample Type:	QC	Sample ID:	CCV1
Run Time(min):	9.99	Vial:	a:5
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

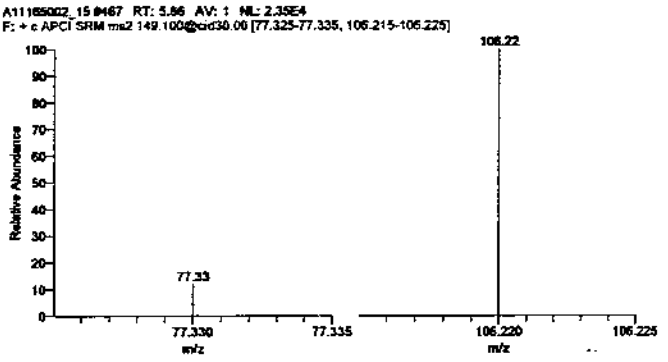
Quan Peak Table

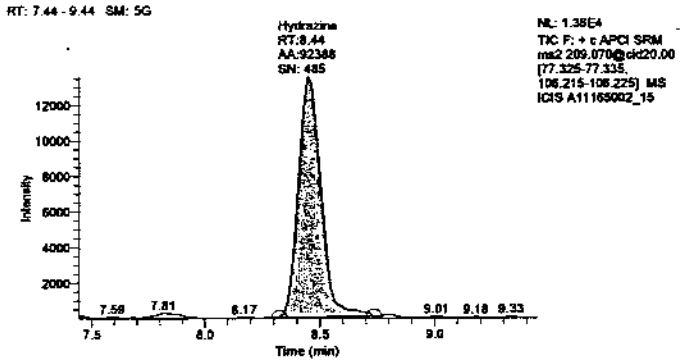
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	21.965	ug/kg	204017.632	3.71
1,1-Dimethylhydrazine	18.545	ug/kg	169966.337	5.86
Hydrazine	5.299	ug/kg	92387.898	8.44

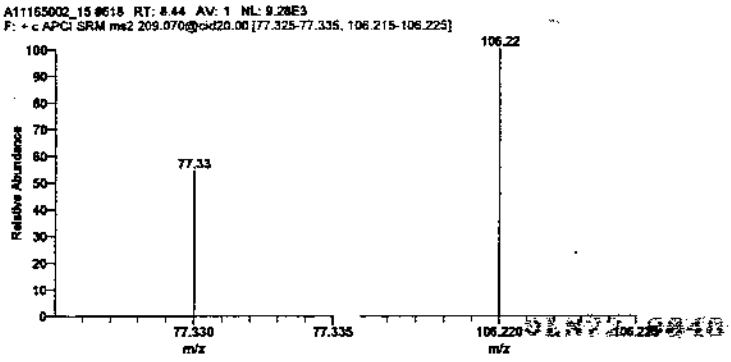












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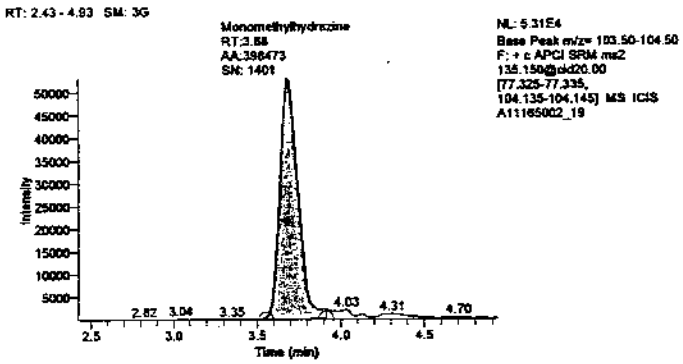
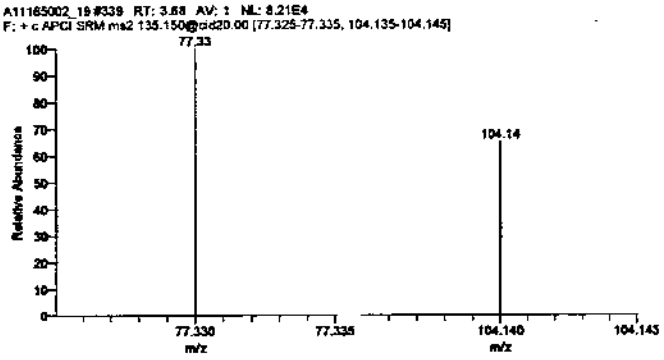
LCMSMS ANALYSIS REPORT

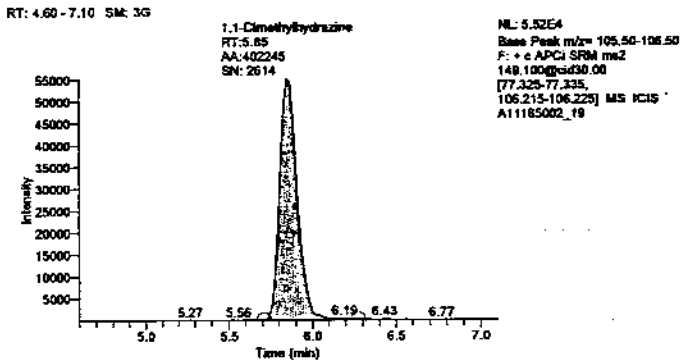
Sample Name:	CCV2		
Data File:	A11165002_19	Acquisition Date:	06/16/11 12:24:15 AM
Sample Type:	QC	Sample ID:	CCV2
Run Time(min):	9.98	Vial:	a:6
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

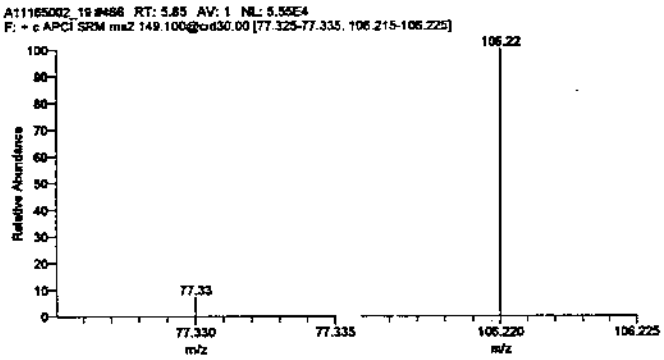
Quan Peak Table

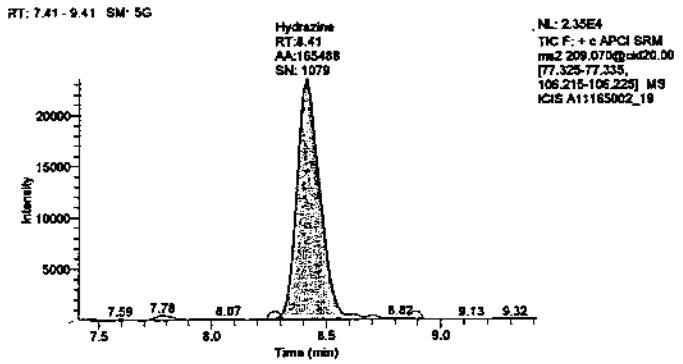
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	42.810	ug/kg	398473.082	3.68
1,1-Dimethylhydrazine	42.017	ug/kg	402245.481	5.85
Hydrazine	9.262	ug/kg	165487.879	8.41

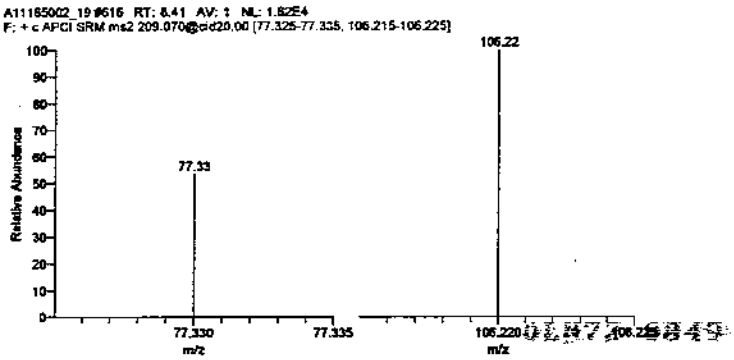












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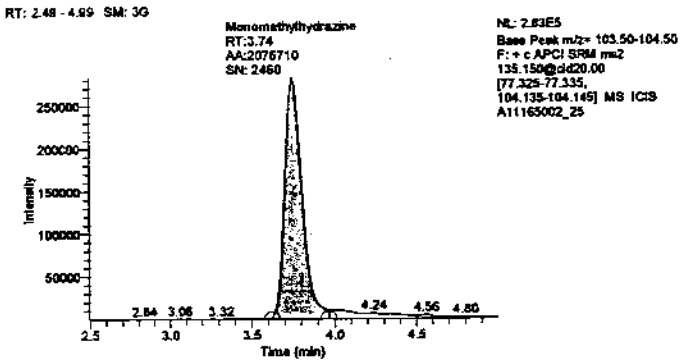
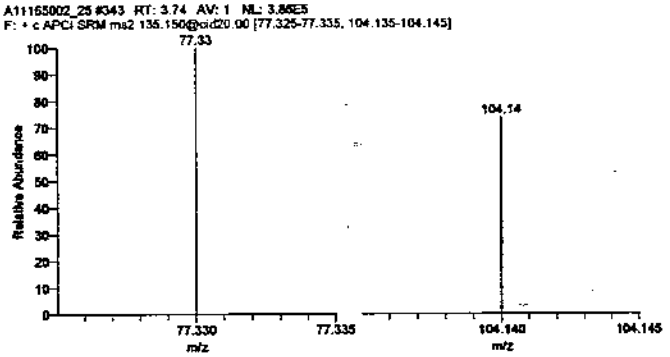
LCMSMS ANALYSIS REPORT

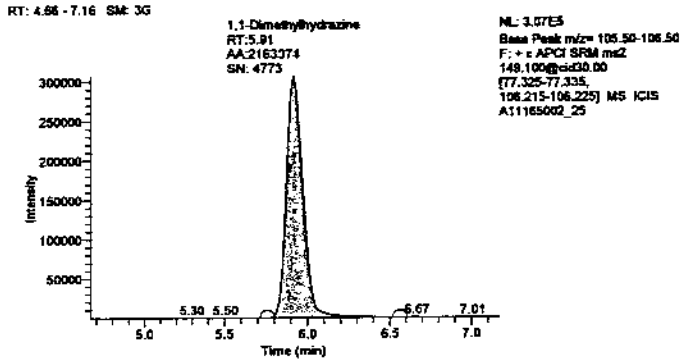
Sample Name:	CCV3		
Data File:	A11165002_25	Acquisition Date:	06/16/11 02:25:56 AM
Sample Type:	QC	Sample ID:	CCV3
Run Time(min):	9.99	Vial:	a:7
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

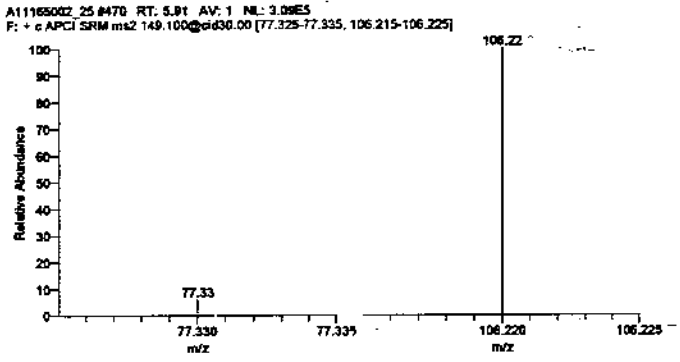
Quan Peak Table

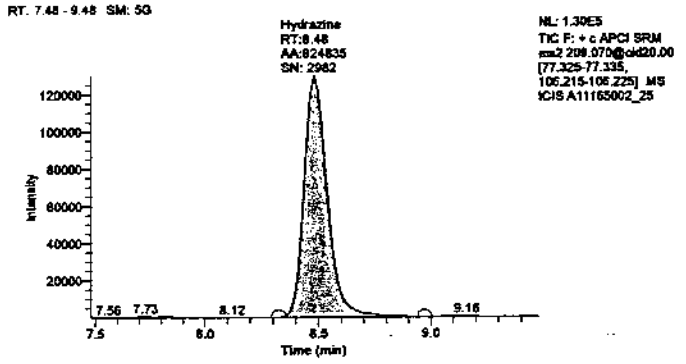
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	222.707	ug/kg	2076710.458	3.74
1,1-Dimethylhydrazine	220.038	ug/kg	2163973.647	5.91
Hydrazine	50.428	ug/kg	924834.870	8.48

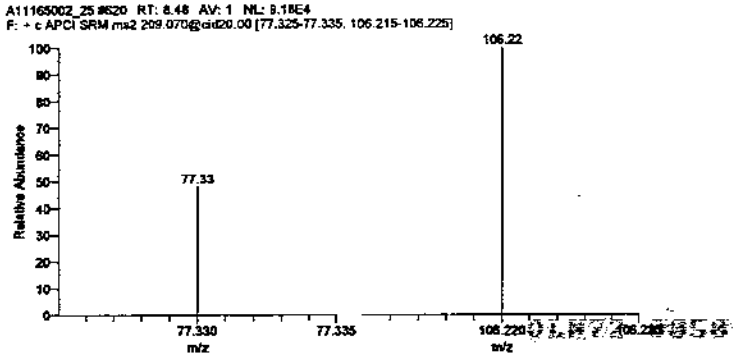












Thursday, June 16, 2011, 11:37:17

Raw QC Data

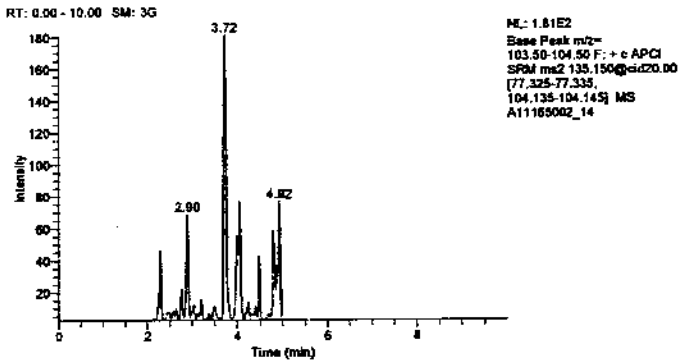
Lancaster Laboratories

LCMSMS ANALYSIS REPORT

Sample Name:	BLK Sand		
Data File:	A11165002_14	Acquisition Date:	06/15/11 10:22:36 PM
Sample Type:	Blank	Sample ID:	BLK Sand
Run Time(min):	9.99	Vial:	a:11
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Hydrazine	N/A	ug/kg	N/A	N/A
1,1-Dimethylhydrazine	N/A	ug/kg	N/A	N/A
Monomethylhydrazine	N/A	ug/kg	N/A	N/A



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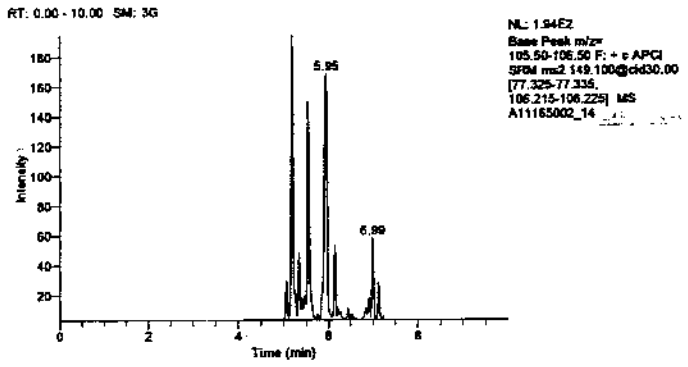

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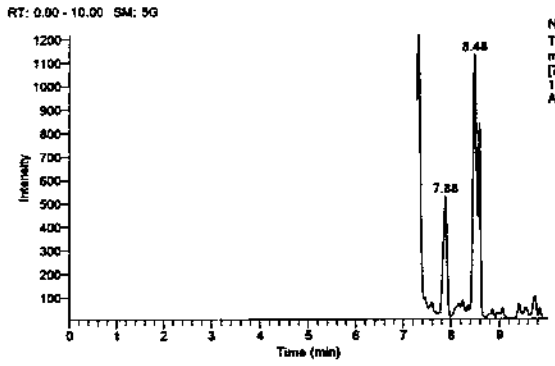

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BLK22. 4852

Thursday, June 16, 2011, 11:37:19

6/17/20

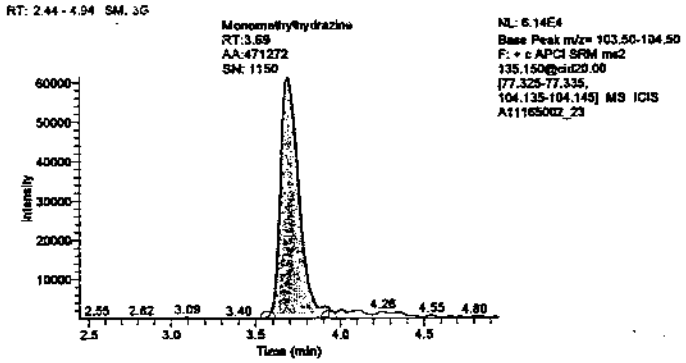
Lancaster Laboratories

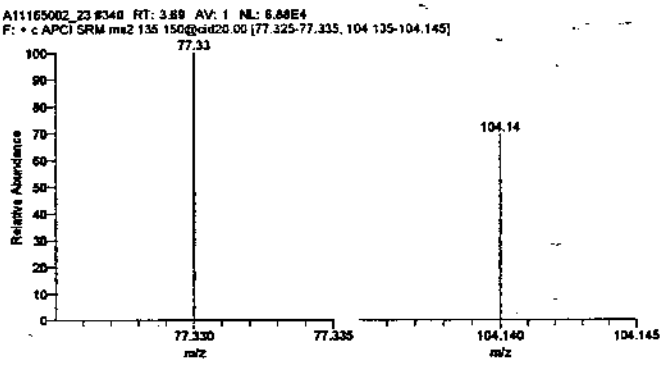
LCMSMS ANALYSIS REPORT

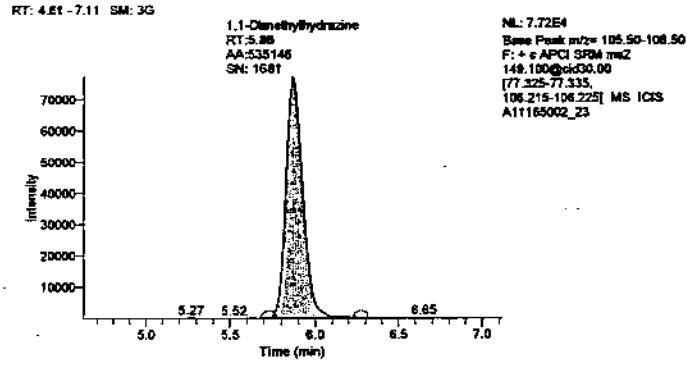
Sample Name:	6310730 (MS)		
Data File:	A11165002_23	Acquisition Date:	06/16/11 01:45:22 AM
Sample Type:	Unknown	Sample ID:	6310730 (MS)
Run Time(min):	9.99	Vial:	a:16
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

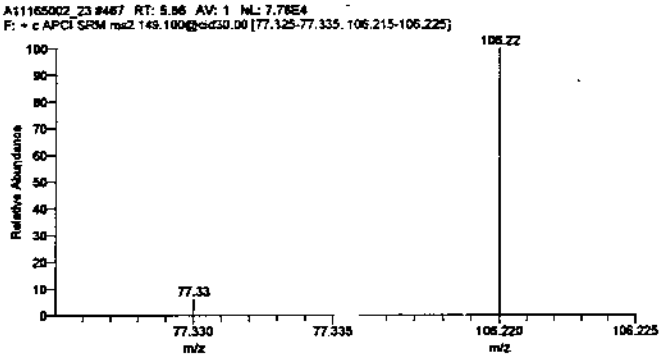
Quan Peak Table

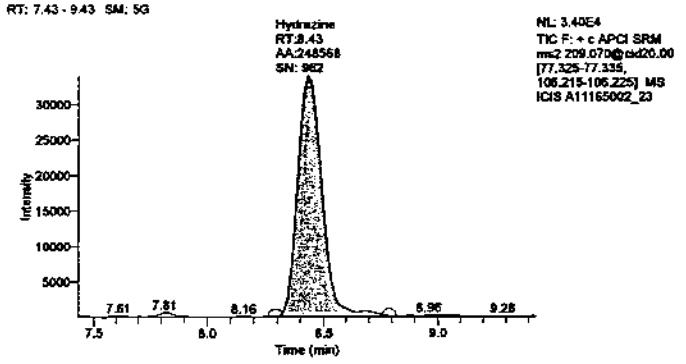
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	50.613	ug/kg	471272.236	3.69
1,1-Dimethylhydrazine	55.446	ug/kg	535146.490	5.86
Hydrazine	13.766	ug/kg	248567.911	8.43

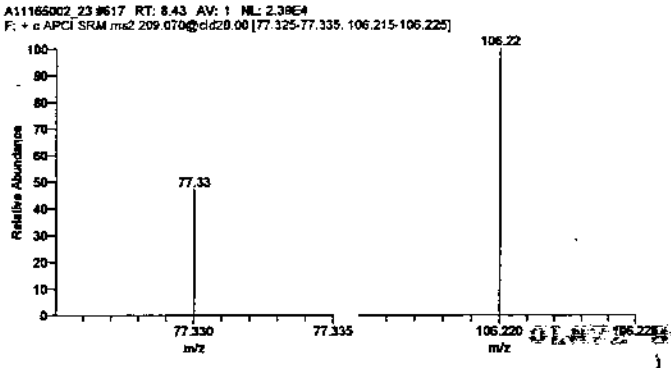












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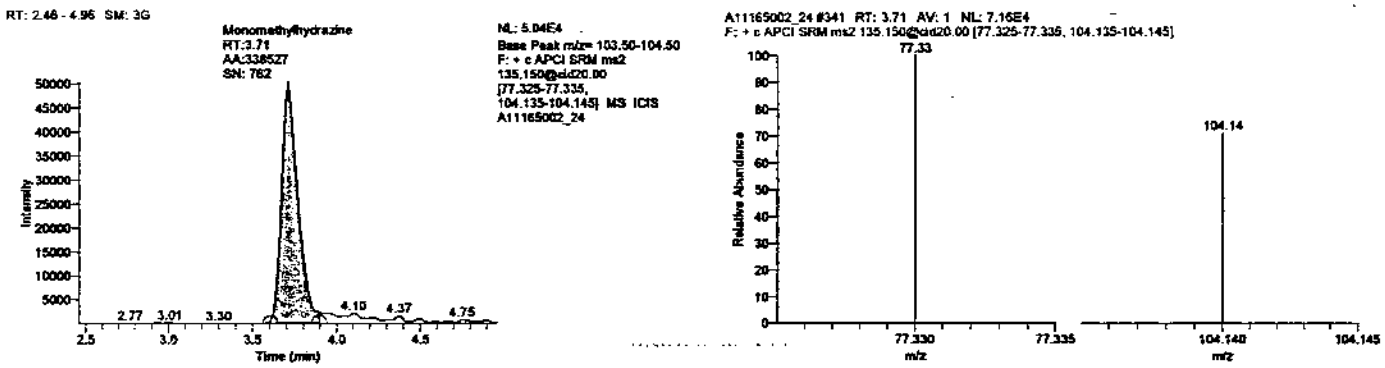
Lancaster Laboratories

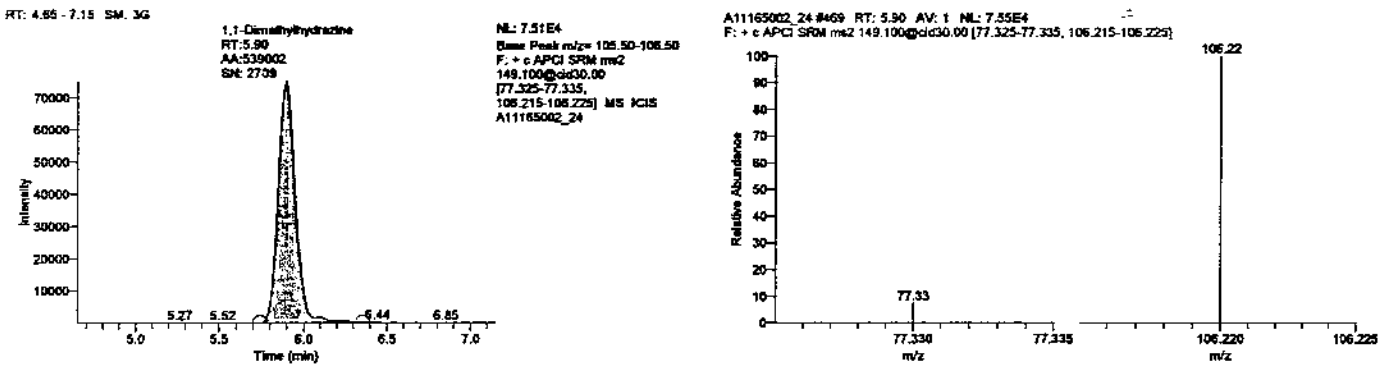
LCMSMS ANALYSIS REPORT

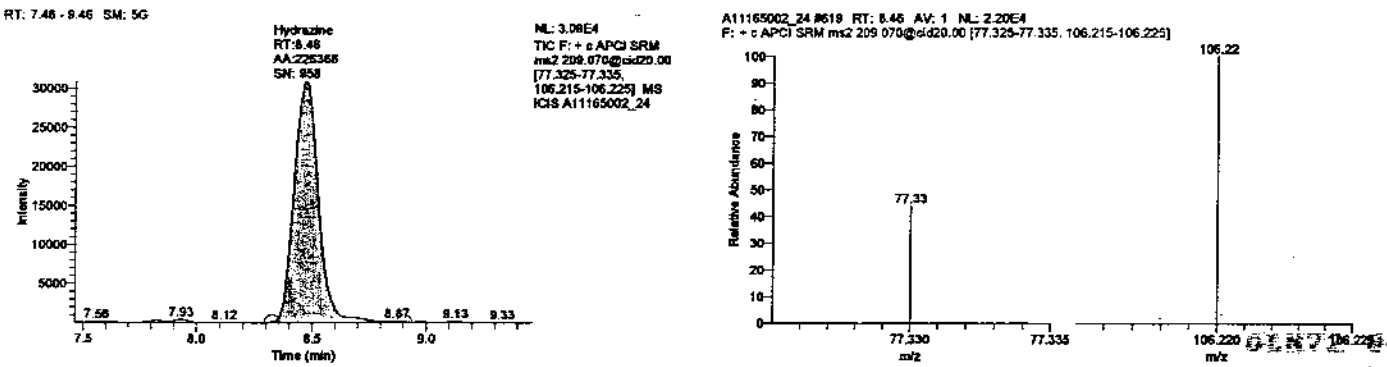
Sample Name:	6310731(MSD)		
Data File:	A11165002_24	Acquisition Date:	06/16/11 02:05:39 AM
Sample Type:	Unknown	Sample ID:	6310731(MSD)
Run Time(min):	9.99	Vial:	a:17
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	36.384	ug/kg	338527.471	3.71
1,1-Dimethylhydrazine	55.836	ug/kg	539001.853	5.90
Hydrazine	12.563	ug/kg	226365.897	8.46







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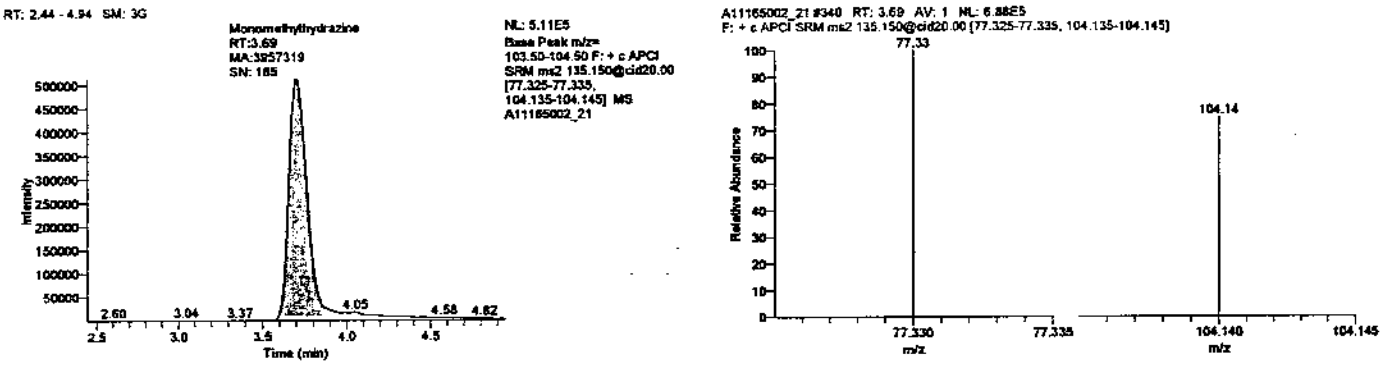
Lancaster Laboratories

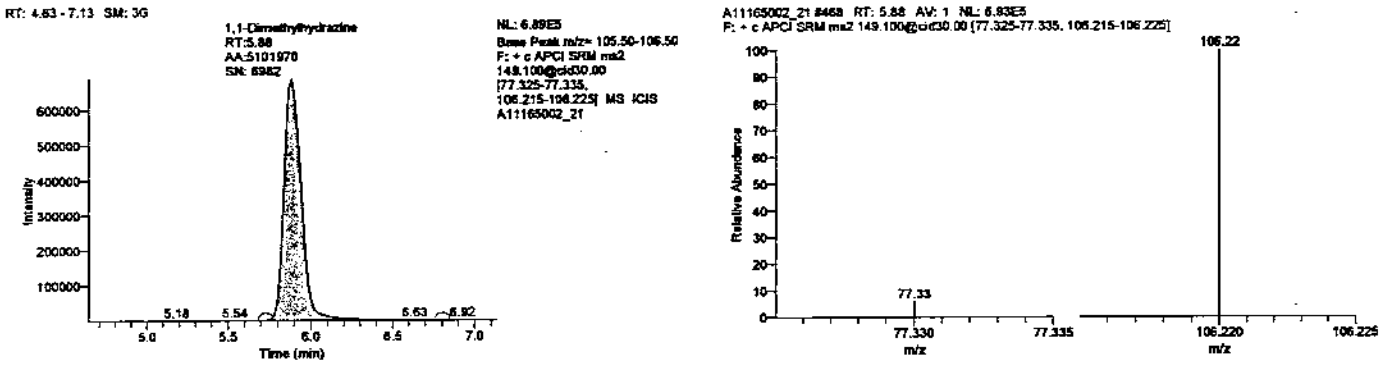
LCMSMS ANALYSIS REPORT

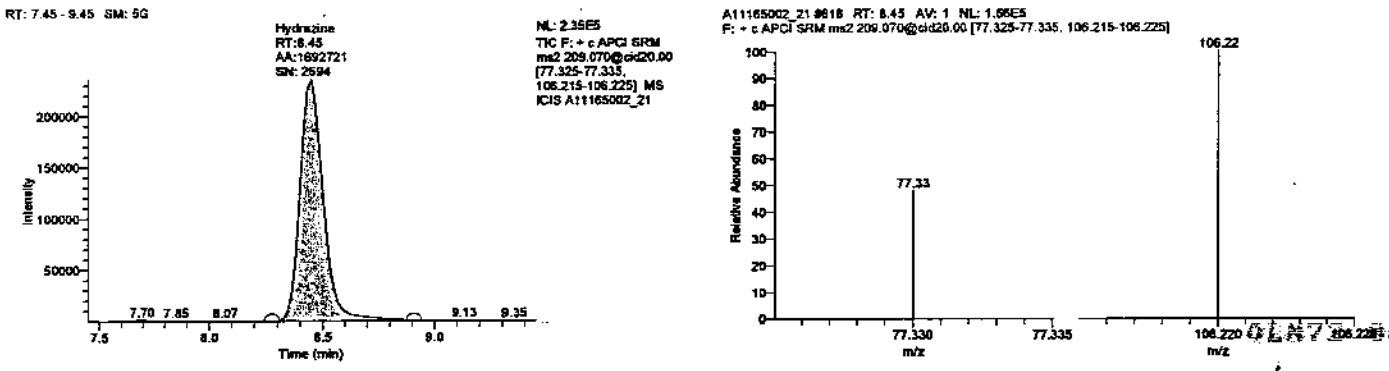
Sample Name:	LCS		
Data File:	A11165002_21	Acquisition Date:	06/16/11 01:04:49 AM
Sample Type:	Unknown	Sample ID:	LCS
Run Time(min):	9.98	Vial:	a:14
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

Quan Peak Table

Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	424.297	ug/kg	3957319.268	3.69
1,1-Dimethylhydrazine	516.922	ug/kg	5101969.819	5.88
Hydrazine	92.056	ug/kg	1692721.302	8.45







Thursday, June 16, 2011, 12:53:34

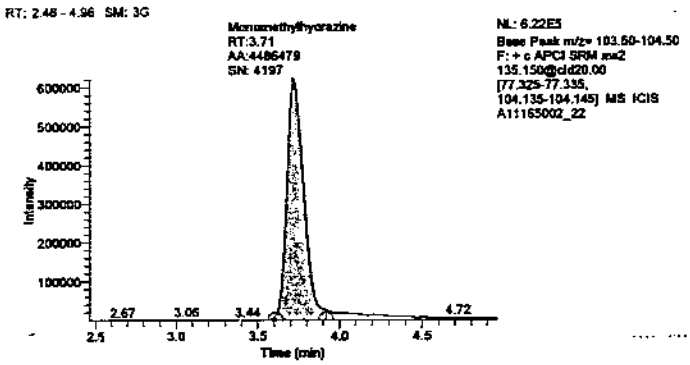
Lancaster Laboratories

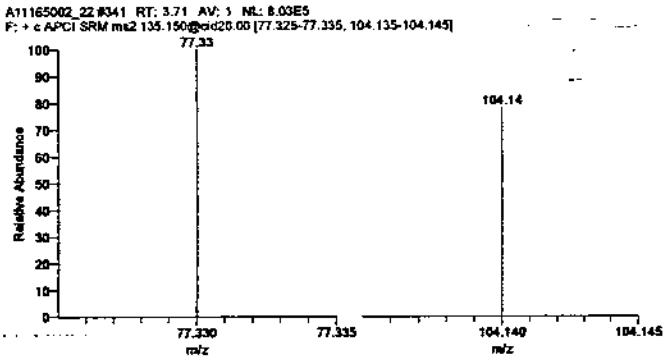
LCMSMS ANALYSIS REPORT

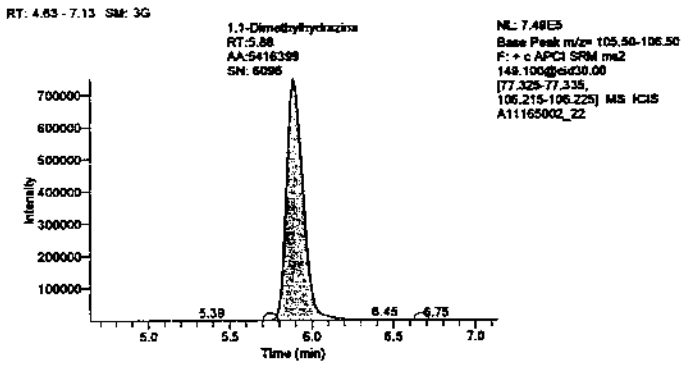
Sample Name:	LCSD		
Data File:	A11165002_22	Acquisition Date:	06/16/11 01:25:06 AM
Sample Type:	Unknown	Sample ID:	LCSD
Run Time(min):	9.98	Vial:	a:15
Injection Volume(µl):	5.00	Instrument Software Version:	1.4.1
Dilution Factor:	1.00	Instrument Name:	Quantum
Instrument Model:	TSQ Quantum Access	Instrument Serial Number:	TQU01408
Instrument Method:	C:\XCalibur\Hydrazine Analysis\Hydraz_soil	Original Data Path:	C:\XCalibur\Hydrazine Analysis\2011June
Operator:	Quantum		

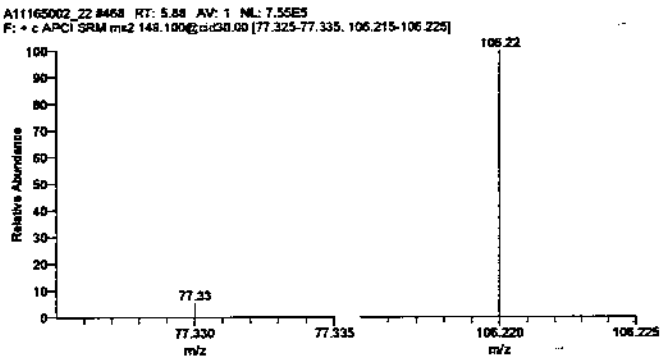
Quan Peak Table

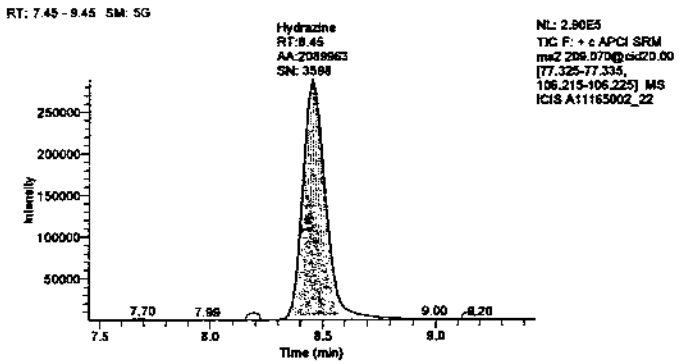
Component Name	Calculated Amount	Units	Response Ratio	RT
Monomethylhydrazine	481.020	ug/kg	4486479.012	3.71
1,1-Dimethylhydrazine	548.695	ug/kg	5416398.549	5.88
Hydrazine	113.592	ug/kg	2089963.356	8.45

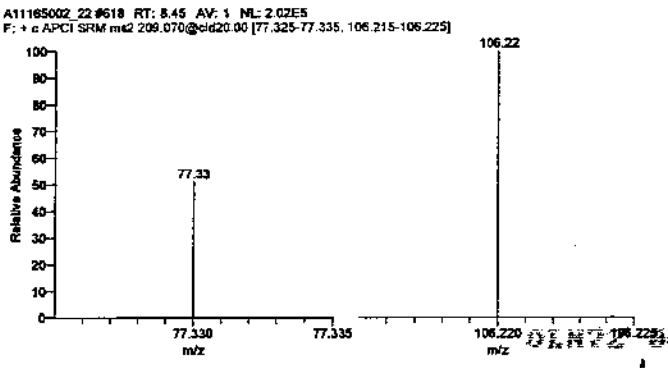












Thursday, June 16, 2011, 11:37:25

Preparation Logs

Organic Extraction Batchlog Assigned to: 2628 Meng Yu

Reviewed by: _____ Start Date: 6/15/11 Start time: 1105

11165002

Tech 1: MY2628 Tech 2: _____

Dept: 37 Prep Analysis: 00000 Hydrazines in Soil

QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments
6310730MS	448-1	1	NA	NA	125952-29-1	0.10	1.5	5		34a	
6310731MSD	448-1	1	NA	NA	✓	0.10	1.5	5		✓	
BLANKA	BLK165002	1	NA	NA	NA	NA	1.5	5		NA	
LCSA	OPR165002	1	NA	NA	125952-29-1	0.10	1.5	5		NA	
LCSDA		1	NA	NA	✓	0.10	1.5	5		NA	

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	pH	BC	Comments	Analyses	Due Date	Prio
1	6310728	448-D	1	NA	NA	1.5	5		34a		10346	06/21/2011	P
2	6310729BKG	448-1	1	NA	NA	1.5	5		34a		10346	06/21/2011	P

Rack ID:		Work Station	
Internal Standard		Balance #	

S-bath ID	C	S-bath ID	C	N-Evap	C	M-vap	C	11165002

Documented temps are NIST corrected.

DF = Dilution Factor FV = Final Volume

Moisture Data

Lancaster Laboratories

CLIENT: Olin Corporation
SDG: OLN72

MOISTURE

SAMPLE NUMBERS:

Sample #	Sample Code
6310728	448-DFD
6310729	448-1BKG
6310730	448-1MS
6310731	448-1MSD

Laboratory Compliance Quality Control

Analysis Name	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Max
Batch number: 11165820002B	Sample number(s): 6310728-6310731				
Moisture	100		99-101		
Moisture	100		99-101		
Moisture Duplicate	100		99-101		

Sample Matrix Quality Control

Analysis Name	BKG Conc	DUP Conc	RPD	RPD Max
Batch number: 11165820002B	Sample number(s): 6310728-6310731			
Moisture	6.5	6.1	7	15
Moisture Duplicate	6.5	6.1	7	15
Moisture	6.5	6.1	7	15

* - Outside of specification
(1) - The result for one or both determinations was less than five times the LOQ.

Moisture Data Report

Batch #: 11165820002

Sample ID	Batch ID	Analysis#	Tare Wt	Sample Wt	Dry Wt	%Moisture	Analysis Date (Emp#)	Verified Date (Emp#)
LCS 89.5% Std.			1.0844	5.0155	1.6177	89.37	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)
6310728FD	B	00111	1.0543	9.3679	9.8431	6.18	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)
6310729BKG	B	00111	1.0750	9.2926	9.7591	6.55	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)
6310730MS	B	00118				6.55	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)
6310731MSD	B	00118				6.55	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)
6310731MSD	B	00121	1.0689	9.2990	9.7989	6.12	6/14/11 (1201/SWF)	6/15/11 (1382/SAS)

OLN72 8868